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Orson Fowler's Influence in the Shenandoah Valley: Gravel Wall Buildings in Augusta County, Virginia.

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ORSON FOWLER'S INFLUENCE IN THE SHENANDOAH VALLEY: GRAVEL WALL BUILDINGS IN AUGUSTA COUNTY, VIRGINIA

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Abstract

Orson Squire Fowler remains a well-known name within the field of architectural history, thanks to his octagonal house designs which enjoyed a degree of popularity during the second half of the nineteenth century. An avid phrenologist, Fowler's concern for healthy living environments influenced his house designs. In the first edition of his book *A Home For All* (1848), Fowler advocated for board wall construction for houses, a method he abandoned in the third edition (1853) in favor of concrete. The material he described as concrete would be laid in a "gravel wall plan" and consisted of a lime-based mortar with larger aggregate than modern-day mixes. Scholarly literature has focused primarily on the proliferation of the octagon house design and less on the materials. This thesis remedies this gap by analyzing gravel wall buildings constructed in Augusta County, Virginia during the second half of the nineteenth century.

Orson Fowler's influence in Augusta County, Virginia, is evident in forty-eight "gravel wall" houses and buildings constructed between 1859 and ca. 1900. Augusta County's architectural history has received a great deal of study over the past decades, but gravel wall construction has been misidentified or ignored. While the county's gravel wall buildings seem to closely follow Fowler's prescribed material, they entirely reject the octagon form and instead follow local plan types. These plan types vary widely, from symmetrical to asymmetrical, and single-pile to double-pile, all of which are consonant with long-standing vernacular plan types identified by earlier scholarship.

These buildings link Augusta County with the progressive construction methods advocated by Fowler and others. While progressive construction methods were adopted, traditional plan types were retained. Mortar analysis undertaken on mortar samples from various sites indicates a great deal of variation between sites and with Fowler's prescribed ratios and suggests that variation not only existed in plan, but also material. The gravel wall method of construction faded out around the turn of the twentieth century, replaced by cheaper and quicker alternatives like concrete block.

Acknowledgments

This thesis was completed with the aid of a number of individuals, to each of whom I am indebted. Nancy Sorrells urged me toward this topic, all because of a handful of similar houses in Augusta County that didn't make sense to her. Her help and guidance continued through the entire process, despite numerous other commitments. Dan Pezzoni pushed me in the correct direction and served as a much-needed sharp set of eyes for chapter drafts. I am also in debt to the members of my thesis committee: Dr. Carter Hudgins, Amalia Leifeste, and Frances Ford. All three offered guidance and encouragement throughout the process, for which I am appreciative. Finally, I would like to thank those who welcomed me into their homes and allowed me to crawl around their basements. This was a wonderful opportunity to study the unique architecture of Augusta County.

All photos credited to Dell Upton, G.P. Heffelfinger, Ann McCleary, and Ed Chappell were accessed at the Virginia Department of Historic Resources in Richmond, Virginia. The author would like to extend his gratitude to the archival staff at VDHR for their help in accessing materials for this project.

Vintage Aerial also graciously provided a number of aerial photos from the 1960s, 70s, and 80s of houses I was unable to record. These images were helpful in crafting an inclusive assessment of these resources.

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Chapter 1 : Introduction

Architectural experimentation is ubiquitous throughout American architectural history. New materials were constantly developed and tested, some to great success, others to catastrophic failure. This inclination to experiment and tinker was driven by the desire for a better, stronger, more cost-effective, more attractive way of building. Architectural experimentation saw a surge in popularity beginning in the nineteenth century. No longer were builders confined to a narrow range of styles. Instead, a proliferation of pattern books spread throughout the country, opening up a new horizon of styles and methods of building.[1]

Orson Fowler's 1853 *The Octagon House: A Home for All* reflected the nation's fervor toward architectural experiment. Fowler had no formal architectural training, but because of his formal training as a phrenologist, human health and well-being was of interest. Fowler's book adamantly advocated octagonal houses and cited their superiority to traditional building shapes, both in cost and ease of construction, as well as their qualities promoting good health. The octagonal shape, he asserted, used space and materials more efficiently and created a cleaner living environment. In addition to octagon houses' superior shape, Fowler promoted a method for constructing walls called

[1] Two such pattern books which gained popularity and high visibility during the nineteenth century were Asher Benjamin's *Practice of Architecture: The Builder's Guide* and Andrew Jackson Downing's *Cottage residences; or A Series of Designs for Rural Cottages and Cottage Villas, and Their Gardens and Grounds, Adapted to North America*.

the “gravel wall plan.” The gravel wall plan consisted of a mixture of sand, lime, and medium-sized aggregate (gravel). Not only materials, the gravel wall plan is additionally a construction method, similar to modern-day slipform or historically to tabby and pisé. Adamant that the material was superior, Fowler cited his own house, which he constructed himself using this method, as an example.

Orson Fowler’s influence in the Eastern United States has never been quantitatively measured. Numerous octagonal houses, many built using his prescribed gravel wall plan, are found throughout the U.S., but only one definitive study has been undertaken.[2] This is despite the fact that many examples are found in the Northeast, situated geographically proximate to the location of his self-built residence. While many examples are found in the Northeast, examples of his influence stretch from coast to coast.

One example is of the Zelotes Holmes house in Laurens, South Carolina.[3] At the time of the 1977 survey of the house by the Historic American Building Survey, the house was noted as “one of the few surviving examples of ‘gravel wall’ construction in the nation.” This statement reflects the lack of academic study Fowler-inspired buildings have recieved. Though the survey was completed when architectural history was just turning its attention to vernacular buildings, gravel wall has hardly been broached through academic study since. Through research conducted for this thesis, nineteen

[2] One definitive study that has been undertaken is by Rebecca Lawin McCarley in a 2005 paper for the Vernacular Architecture Forum’s publication, Perspectives in Vernacular Architecture. The paper was entitled “Orson S. Fowler and a Home for All: The Octagon House in the Midwest,” and primarily focuses on the factors that led to the rise in popularity of octagonal houses, and less so on material intent.
[3] The Zelotes Holmes House was surveyed by HABS in 1977 by Bruce Klee Brown (HABS SC-376).

examples of Fowler's "gravel wall plan" buildings have been identified in Augusta County, Virginia. This discovery suggests that Fowler's influence was not always present as a cohesive combination of materials, methods, and form. Instead, the people of Augusta County, and likely elsewhere in Virginia, embraced Fowler's proposed materials and methods more than the octagonal house form.

Augusta County, Virginia is located in the heart of the Shenandoah Valley. Fertile, open land led to agriculture becoming the dominant commercial driver for the county during the eighteenth and nineteenth centuries. Small farms were common in the county, with a building type known as the "I-house" a common feature on the landscape. Generally described as a single-pile, central-passage house, usually with three or five bays, the I-house rose to popularity around the turn of the 19th century in the county. The house type has been widely studied, due to its wide geographic diaspora.[4]

Beginning after the Civil War, houses constructed with gravel walls began to appear on the Augusta County landscape, mostly following the popular I-house form. Referred to locally as "concrete," the key part of Fowler's manifesto that was embraced was the material, not the building shape. Consequently, the buildings constructed could easily be mistaken from the outside as a stuccoed I-house, leading many architectural surveys from the 1970s and 1980s to conclude that the primary material was brick.[5]

[4] The I-House was first coined because many examples initially studied were found in Illinois and Indiana, states that begin with the letter "I." Much architectural history research in the 1970s and 1980s focused on the origins, history, and development of the I-House, as well as its spread westward.

[5] Of the thirteen "gravel wall plan" buildings surveyed during this time, only seven were correctly identified materially. The other six were mistaken for concrete block, stuccoed brick, and stuccoed stone, among other materials. One survey of the M.C. Switzer House (007-364) by Ed Chappell in 1977 states "this method of [gravel wall] construction has been observed in other Shen. Valley structures dating from

Furthermore, commercial buildings and religious buildings were constructed with gravel wall plans, further proving that Augusta County builders wholeheartedly embraced Fowler's materials over his prescribed form.

The Shenandoah Valley was the focus of intensive study by architectural historians during the 1970s and 1980s. Some of the most recognizable names in architectural history, such as Ed Chappell and Dell Upton, turned their attention toward the area, drawn by its importance in the movement of settlers in the eighteenth century. As the field of architectural history has broadened in scope, these early scholars shifted to topics away from the Valley. Early studies of the valley's architecture focused primarily on settlement-era buildings, which usually dated to the eighteenth century. Consequently, architecture from the nineteenth century has received much less attention, especially buildings built after the Civil War. Architectural historian Ann McCleary, in her 1983 report for the Virginia Landmarks Commission, thoroughly summarized Augusta County's historic architecture in what remains the most complete resource for the county's architectural history.

This study intends to serve as a starting point for future research. In addition to hopes that architectural research can continue to other regions, mortar analysis completed during this study could serve as a basis for further research into early lime-based concretes. The results of the analysis will be used not only as a platform for further

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the 2nd half of the 19th c., incl. the rear ell of the W.H. Myers House at Mt. Solon, the abandoned Mennonite Church in Northern Augusta, and a meat house near Strasburg in Shenandoah County," which suggests that links had been made between existing gravel wall plans, though no further study resulted.

research, but also for comparative uses. Fowler's book covers all aspects of constructing the octagonal house, from the process to the style, to the materials, down to minutiae such as the ratio of lime to sand in the mortar mix. Where Fowler is thorough, he is equally as vague, often advocating for experimentation within his wide parameters. For instance, Fowler's ratios of lime to sand are fluid and are measured in wheel barrows, which he states "to eight barrows of lime, I usually wheeled in from sixteen to eighteen barrows of sand."[6] The data gathered from the mortar analysis will include, among other things, a ratio of lime to sand. This data will be compared to Fowler's loosely-prescribed ratios, in an effort to understand the amount of variation the builders of these examples in Augusta County thought acceptable. In addition, the data will be used for comparison between buildings, with the hopes that similarities could suggest a singular builder, who worked throughout the county on gravel wall plan buildings.

"Gravel wall plan" buildings survive throughout the Shenandoah Valley, not solely in Augusta County. These buildings likely exist in an even larger geographic area, perhaps throughout the entire country. This material has not been studied within the field of architectural history, nor within the field of historic preservation. Similarly, architectural study has largely moved away from the Shenandoah Valley, though many of the questions noted during landmark studies from past decades are still yet to be answered. This thesis attempts to rectify both of these issues, plugging the Shenandoah Valley into a larger un-told and under-studied piece of architectural history.

[6] Orson S. Fowler, The Octagon House: A Home for All (Dover: New York, 1853), 25.

Methodology

Site Identification

The identification of gravel wall buildings began by word of mouth. Interaction with local historians identified the Sensabaugh, Hamilton, and Eavers Houses as potential gravel wall houses. After a cursory investigation of these houses, building characteristics were noted that helped further identification of other similar houses. Architecturally, any building with a stucco render was considered. Ann McCleary's "Study Unit" proved to be a central resource for identification. In particular, McCleary's building appendices proved especially useful. While these building appendices organized surveyed buildings by plan and use, it also separated buildings by construction material. The materials that were considered relevant for consideration were stone, stucco, and concrete. Further consideration would be given to buildings whose construction date fell broadly within the mid-to-late nineteenth century.

With a list created, field reconnaissance was undertaken to verify buildings. If buildings weren't visible from the public right-of-way, McCleary's house surveys were utilized to make determinations on building material. Additionally, interaction with locals served as an identification tool. Locals identified multiple gravel wall buildings that were not identified by McCleary. Finally, newspapers served as perhaps the most useful tool to identify buildings. An 1882 newspaper article, in particular, chronicled the development of gravel wall buildings in the county, listing numerous names of individuals who had gravel wall buildings constructed. Names listed in the 1882 article were cross-referenced

with Jedidiah Hotchkiss's 1885 atlas of Augusta County, as well as two earlier maps by Hotchkiss.[7] Using those results, comparisons were made between the atlas and modern-day maps to identify extant buildings.

Survey Method

Once a list of gravel wall buildings was populated, further information was gathered. This information included owner, acreage, and notes on references in historic resources (such as the 1885 Hotchkiss atlas of the county and surveys completed in the 1930s by the Works Progress Administration). The Augusta County GIS website was used to identify building owner and acreage, two crucial pieces of information to begin both site visits and chain of title research. Chain of title research was completed as time and access allowed, which served as the basis for property tax research to determine construction dates.

Using this information, owners of potential buildings were contacted and site visits arranged. To aid in data collection onsite, a survey form was developed. The survey form was oriented toward architectural details, such as number of stories, bays, and decorative elements. The capture of this data was aimed at creating a result pool capable of comparison between sites. However, due to restraints on access and time, some forms were only partially completed.

[7] These maps date from 1870 and 1875, and though completed in much less detail, still prove useful both for building identification and eventual chain of title research.

Once buildings were surveyed, each was categorized by plan type. These plan types are as follows: I-House, I-House with integral ell, I-House as an addition, Double-pile with center hall, H-Plan, Combination plan, Asymmetrical, outbuilding.

Where time and access allowed, basic measurements were taken for a representative building for each of the plan types. For all other surveyed buildings, overall footprint measurements were taken, in an effort to capture quantifiable data for comparison.

Mortar analysis

As a supplement to this study, mortar analysis, in the form of acid digestion, was completed on samples taken from the majority of the surveyed buildings. This analysis reveals proportions of aggregate, binder, and fines in the "gravel wall" concrete mix. The results of this data were used both for comparison between buildings and for comparison between surveyed buildings and Orson Fowler's prescribed proportions. The mortar analysis aimed to prove that there was a standardization of material ratios between sites, all of which fell within Fowler's range prescribed in *A Home for All*.

Because of substantial exterior stucco renders, at most sites, samples were taken from interior basement locations, the only locations where enough of the material was exposed. In basement locations, these samples were taken from areas just above the shift from foundation to wall. Discreet locations were preferred, as were small sample sizes. In a few cases, exterior samples were taken from buildings that either did not allow interior access or that were deteriorated to a point where wall material was visible, due to the

absence of exterior stucco. Samples were extracted with a knife and placed in a plastic bag for safe keeping until analysis began. Photographs were taken of the sample location both before and after extraction.

In the lab, gross samples were documented through photography. Gross samples were then powdered in a mortar and pestle and dried in an incubator for 24 hours to ensure the removal of all moisture. Upon completion of incubation, the samples were weighed. The dried samples were put into glass beakers and water was introduced, followed by muriatic acid, which began the chemical reaction. A magnetic stir bar was placed in the solution and the beaker was placed atop a mechanical stirring plate and agitated for 24 hours. During this process, filter paper and beakers were selected and weighed. Following the conclusion of the reaction, the solution was poured into a filter paper-lined funnel that drained into an Erlenmeyer flask. The method behind the filtering involved suspending the fines in solution (through stirring), so they can be captured on the filter paper. Larger aggregate would remain in the beaker and would be analyzed later. After filtering was completed, the filter paper was placed on a watch glass and dried in an incubator for 24 hours. Additionally, the beaker containing the aggregate was dried for 24 hours. Once dried, the aggregate (which was removed from the beaker) and the filter paper were weighed, revealing the weight of the fines and aggregate, respectively. By the end of the analysis, amounts of aggregate, fines, and binder were captured, and when compared with original dried sample weight, revealed proportions of each.

Results were noted in mortar analysis sheets, included in the appendices of this thesis. The mortar analysis adheres partially to the American Society for Testing and

Materials (ASTM) standards for the *Examination and Analysis of Hardened Masonry Mortar* (C1324-15). Petrographic analysis was not completed, but all other steps of C1324-15 were followed.

Equipment list:

Fisherbrand Octagonal Stir Bars (1.5” x 5/16”)
Fisherbrand Low Form, 600 mL Griffin Beaker
Fisherbrand Q5 Filter Paper
Fisherbrand 1000 mL Erlenmeyer Flask, Stopper No. 9
Mettler Toledo AL204 Analytical Balance
Nikon D3200
Pyrex Watch Glasses with Fire-Polished Edges

Chapter 2 : Literature Review

To place this thesis within the context of existing research, a variety of resources were analyzed. Due to the subject matter, the resources consulted ranged widely in subject. Because of this, this literature review is organized into broad sections based on subject matter.

Shenandoah Valley Architecture and History

Academic interest in the Shenandoah Valley as a cultural region dates to the early-to-mid twentieth century when multiple attempts at crafting a comprehensive history were undertaken. While Samuel Couper's three-volume work is undeniably the most comprehensive, other authors focused heavily on settlement of the Valley by various ethnic groups. Space was also given to the diffusion of settlers and the subsequent development of religious and social structures in the region.[8] Many of the earlier works of Shenandoah Valley history lack academic argument and often make unsupported claims. John Wayland, for example, claimed: There is no other part of Virginia, possibly no section of any other state in the Union, in which can be found so great a variety of races and religions as in the Shenandoah Valley.[9]

[8] William Couper, *History of the Shenandoah Valley* (New York, NY: Lewis Historical Publishing Company, 1952)., John W. Wayland, *Twenty-Five Chapters on the Shenandoah Valley* (Strasburg, Virginia: The Shenandoah Publishing House, 1957)., Samuel Kercheval, *A History of the Valley of Virginia* (Strasburg, Virginia: Shenandoah Publishing Company, 1925). These three are the primary early sources on Shenandoah Valley history. All three are comprehensive in their study of the settlement of the Valley and seem to focus on the Valley's early history rather than its later history.
[9] Wayland, *Twenty-Five Chapters*, 79.

Sources in these early works are often ambiguous or not noted. An air of argument toward the superiority of the Shenandoah Valley is evident, rendering these sources useful for information on overall settlement patterns and development. However, caution should be taken toward using specific claims.[10]

As the shift in architectural history toward studies of the vernacular occurred in the 1960s, numerous academic works that focused on prominent architecture, easily attributable to well-defined styles, served as a resource instead of a focus.[11] The Shenandoah Valley became the region of focus for architectural historians, due to its unique settlement pattern and geographic location. The shift in study to the Shenandoah Valley signaled a change in the field of architectural history, as focus shifted for the first time away from areas of colonial settlement. Architectural historians and folklorists alike, few of whom from the region, studied the Shenandoah Valley's architectural stock during this period. Henry Glassie's 1969 *Pattern in the Material Folk Culture of the Eastern United States* analyzed architecture, among other things, through the lens of folklore. Glassie followed his first book with *Folk Housing in Middle Virginia*, published in 1975. Both books only touch briefly on the Shenandoah Valley, but nonetheless provide valuable information for this study.[12]

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[10] All three authors recognize the importance of tangible representations of the Shenandoah Valley's history. Wayland recognizes this in particular, with the majority of his illustrations prominent buildings tied to important events in the Valley's (often early) history.

[11] One such work is Fiske Kimball's *Domestic Architecture of the American Colonies and of the Early Republic*. Published in 1922, there is not a single mention of the Shenandoah Valley in the book, which focuses in great detail on the stylistic details and development of the architecture of such places as the Tidewater of Virginia, Charleston, and Philadelphia.

[12] *Pattern in the Material Folk Culture of the Eastern United States*, in particular, drew early comparisons between housing forms in Pennsylvania to those in the Shenandoah Valley. This is the first time the

Building off of the work of Henry Glassie, Ed Chappell focused on the German influence in Shenandoah Valley architecture with his study of German houses in Rockingham County, Virginia. Much like Glassie, Chappell used architecture to argue settlement patterns.[13] In the process, he linked tangible elements on the Shenandoah Valley landscape to histories, such as those written by John Wayland almost a century earlier.[14] Further studies, many narrower in scope like Chappell's, were undertaken during this period. Many efforts were concentrated on county-wide architectural documentations that attempted to identify patterns and understand the development of counties with respect to architecture.[15]

Running concurrently with architectural historians' studies on the Shenandoah Valley, geographers and historians alike focused their efforts on the Valley. Robert Mitchell investigated the development of the Valley in great detail from multiple angles. These angles included county development, land grants and sales, economic drivers such as agriculture and manufacture, and even minutiae such as average size of farms.[16]

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architecture of the Shenandoah Valley was analytically studied on a large-scale. Glassie's study backed settlement claims made by early authors of Shenandoah Valley history.

[13] Henry Glassie took a material culture-based approach toward buildings. Trained as a folklorist, Glassie viewed buildings as artifacts that could be studied to reveal information about their inhabitants. Glassie's material culture approach was embraced widely by the architectural history field, leading to the formalization of vernacular architecture studies and subsequent narrower studies emulating Glassie's approach.

[14] John Walter Wayland, *The German Element of the Shenandoah Valley of Virginia* (Bridgewater, VA: C.J. Carrier Company, 1964.

[15] One such example is a paper authored by Pamela Simpson in the Bulletin for the Association for Preservation Technology in 1980, entitled "The Molded Brick Cornice in the Valley of Virginia." Simpson undertook a study of a cornice type that was found in Rockbridge and Augusta counties in the Shenandoah Valley. This narrowly-focused study, both in subject matter and geographic area, was typical for the time and is an example of architecture being used as a piece of material culture.

[16] Mitchell, Robert D. Mitchell, *Commercialism and Frontier: Perspectives on the Early Shenandoah Valley* (Charlottesville, Virginia: University Press of Virginia, 1977).

Similarly, Warren Hofstra's studies of Shenandoah Valley settlement patterns intersect with Mitchell's but focus more specifically on agriculture.[17]

Augusta County's Architecture and History

Much of early scholarly literature approached the history of the Shenandoah Valley on a county-by-county basis. Two such histories were written on Augusta County. The first, written in 1882 by John Lewis Peyton, is both a history and a description of the county. Much of the content is topical in nature, with much of the information acquired from prominent individuals within the county. Consequently, Peyton's text is useful as an overview of Augusta County's history. It, however, is less useful for specific details. The book also served descriptive purposes at the time of publishing and remains a useful snapshot of 1880s Augusta County. Peyton provided genealogical and biographical background, as well as descriptions for towns and communities that existed in the 1880s. Much of Peyton's work chronicled individuals involved in the development of the county, as well as land grants, religious practice and diffusion, and transportation routes. Peyton rarely mentioned architecture.[18]

Similar to Peyton's history is Joseph Waddell's *Annals of Augusta County, Virginia* and Jedidiah Hotchkiss's *Illustrated Historical Atlas of Augusta County, Virginia*, both published in 1885. While both were published separately, a later printing combined the two. Their combination complemented each other, with Waddell providing

[17] Warren Hofstra. *The Planting of New Virginia: Settlement and Landscape in the Shenandoah Valley* (Baltimore, Maryland: The Johns Hopkins University Press, 2004).
[18] John Lewis Peyton, *History of Augusta County, Virginia*, second ed. (Bridgewater, 1953)

the historical background to the 1885 snapshot of Augusta County provided in Hotchkiss's atlas. While Waddell's and Peyton's books are similar in subject matter, Waddell's is far less detailed. Hotchkiss's work provides both biographical information and accompanying illustrations as a supplement to his detailed maps of the county. All three sources focus on placing Augusta County's history and development within the wider scope of American history.

Into the twentieth century, Augusta County began to be studied with various purposes. Prominent citizens continued to author works of history, but authors took a narrower, more local approach. Two such books by C.E. May typify this shift. Both books provide an overview of the history and development of northern Augusta County. In particular, *My Augusta* took a genealogical and architecture-centric approach.[19] *Life Under Four Flags*, May's other work, focuses on the North River Basin, which includes only partially Augusta County. However, his focus in Augusta County is confined to the northern section of the county, which is an area with a great concentration of gravel wall plan buildings.[20] Because both of his books focus on the northern part of the county, they can be used for biographical and contextual information.[21] Other local works of history, primarily sourced by oral histories, will be utilized with great caution in this study.[22]

[19] C. E. May, *My Augusta: A Spot of Earth, Not a Woman* (Bridgewater, VA: Good Printers, 1997).
[20] C. E. May, *Life Under Four Flags in North River Basin of Virginia* (Verona, VA: McClure Printing Company, 1976).
[21] *My Augusta* focuses completely on Augusta County, while *Life Under Four Flags* only partially focuses on the county.
[22] One such source is: Frances Rodgers Huff Griffin. *Waggon Road to the Western Mountains of Virginia*. Verona, VA: McClure Printing Company, 1975. In *Waggon Road* [sic], Griffin writes about the history of the western part of Augusta County, centered on Route 250 (the Waggon Road). Some of the gravel wall plan buildings identified in this study fall within this area of the county.

Additionally, the county has been the focus of more formal studies, though in much fewer numbers.[23]

Architectural historians recognized Augusta County's unique history in the 1970s and 1980s when they focused on the county's architectural resources. Ed Chappell's master's thesis focused on pre-Civil War houses in northern Augusta County.[24] Ann McCleary's 1983 study of the county's architecture remains the most comprehensive document chronicling the county's history through architecture. Justifying the comprehensive study, McCleary summarized why the county had long been the focus of historians and academics: "The early Scotch-Irish, German, and English settlers enriched the local architectural development with ethnic forms, leading to a distinct regional blend of architectural styles and forms unlike that across the Blue Ridge in eastern Virginia."[25] McCleary work combined oral history, existing surveys and archival data, and observations to create a coherent and comprehensive history of architecture in the county. A superb resource, McCleary divides her work into sections based on building use, form, plan, and material.[26]

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[23] Clay Michie Catlett and Elliott Guthrie Fishburne, *An Economic and Social Survey of Augusta County* (Charlottesville, Virginia: University of Virginia, 1928). Catlett and Fishburne's work provides an excellent snapshot of many aspects of the county in the late 1920s, including school systems, economy, and geology.
[24] Edward Chappell, "Cultural Change in the Shenandoah Valley: Northern Augusta County Houses Before 1861." (Master's thesis, University of Virginia, 1977). Chappell surveyed some houses used in this study, though very few were included in his thesis, primarily due to the time period of his research. Chappell's research served as a basis for McCleary's later work, which followed a similar methodology.
[25] Ann McCleary, "Study Unit: Historic Resources in Augusta County, Virginia, Eighteenth Century to Present," (Virginia Historic Landmarks Commission, October 1983), 2.
[26] McCleary captured her data from hundreds of field surveys of houses in the county, making it a particularly reliable resource. Multiple dates McCleary determined based on architectural features have been confirmed by the author through archival research. Thus, McCleary's work is not only comprehensive, but also very reliable.

Orson Fowler

Both editions of Orson Fowler's *The Octagon House: A Home for All* are central to this study. The primary and important difference between the two editions is the building material for which Fowler advocates. In his first edition, Fowler advocates for a stacked board method, where walls are constructed by stacking boards horizontally. His third edition, in contrast, advocates for the gravel wall plan, essentially concrete with varying sizes of aggregate. Because gravel wall plans are the crux of this thesis, the third edition is a much more valuable resource than the first.[27]

Multiple sources argue that the octagonal and polygonal shape in architecture was not attributable solely to Fowler.[28] Walter Creese cites numerous examples of earlier unconventionally-shaped architecture, even that of Andrew Jackson Downing, one of the primary proponents of the Gothic Revival style in America.[29] While earlier examples exist, making Fowler's claims on ownership of the octagon method of construction

[27] A similar study to this would be useful for the influence of the stacked board buildings prescribed in the first edition of A Home for All.

[28] Walter Creese, "Fowler and the Domestic Octagon," *The Art Bulletin* 28, no. 2 (June 1946): 89–102., Richard W.E. Perrin, "Circle and Polygon in Wisconsin Architecture: Early Structures of Unconventional Design," *The Wisconsin Magazine of History* 47, no. 1 (Autumn 1963): 50–58. Creese cites earlier examples, such as an 1812 sixteen sided meeting house in Richmond, Vermont, and the first Dutch Protestant Church built in Holland, dating to 1595 and in the shape of an octagon. Creese goes on to give numerous other examples of unconventionally-shaped buildings, adding in comparisons with the earlier drive for efficiency in agricultural buildings, such as George Washington's sixteen-sided barn. Perrin provides other examples of earlier octagonal buildings, most notably Poplar Forest, and a number of small octagonal churches in the Hudson River Valley (near Fowler's own octagonal house) built in the 17th and 18th centuries.

[29] Creese, 94. Downing included in the second edition of *Landscape Gardening* a design of a gate lodge at Blithewood in Annandale, New York, which was a hexagonal building.

erroneous, Fowler's role in the spread of the octagon house is undeniable.[30] Richard Perrin argues that the climate of reform in the mid-19th century contributed to the proliferation of books promoting unconventional building. Within this, many criticized Downing's designs because they sought to appeal to wealthy clients. As the name "A Home for All" suggests, Fowler was interested in creating a more accessible design than the ones promoted by Downing; a design that appealed to the common man. The promotion of concrete was central to this appeal, as it was fireproof, pest-resistant, thermally superior, and most importantly inexpensive. Dwight Young notes that while Fowler did not invent concrete, he promoted its use as a way to champion inexpensive building for the masses.[31]

Multiple regional studies have been undertaken, each interested in assessing Fowler's influence on a smaller scale. The primary difference between the first and third editions of Fowler's *A Home for All* is the prescribed construction material. Fowler describes the impetus for this change with this passage: In 1850, near Jaynesville, Wisc., I saw houses built wholly of lime, mixed with that coarse gravel and sand found in banks on the western prairies, and underling all prairie soil. I visited Milton, to examine the house put up by Mr. Goodrich, the original discoverer of this mode of building, and found his walls as hard as stone itself, and harder than brick walls.[32]

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[30] Richard Perrin argues that Fowler's motivations were based in a line of thinking at the time, based on phrenology, which denounced formal architects and conventional architecture and promoted use and accommodation over style and ornamentation.
[31] Young, 125. Young draws similarities between the gravel wall plan and rammed earth and tabby, asserting that all contribute to this narrative of accessibility.
[32] Orson S. Fowler, *The Octagon House: A Home for All*, Dover Edition (New York, NY: Dover Publications, Inc., 1973), 19.

Richard Perrin, using this attribution, studied octagon buildings (both houses and barns) in Wisconsin, the results of which he summarized in a 1963 paper. Rebecca Lawin McCarley investigated octagonal houses throughout the Midwest in a broader, data-driven analysis.[33] Settlers in the Midwest arrived primarily from points in the Northeast, which McCarley argues is why the Midwest contains so many examples of octagonal buildings. Additionally, there is a high correlation between the location of octagon houses and the location of transportation routes within the Midwest. With settlement into the Midwest, reform-minded builders from the Northeast who often shared many of Fowler's phrenological-leanings brought with them the octagon house. In McCarley's analysis, she notes that there is variation in octagonal houses in the Midwest, noting especially that "the builders of these [two-story houses] usually included few of Fowler's recommended features, using only the octagon form."[34] McCarley's analysis showed that only 15% of the octagon houses she identified were of gravel wall construction.[35]

In an analysis and history of a hexagonal house designed by Harriet Morrison Irwin in Charlotte, North Carolina, Beverly Heisner argues that similarities can be drawn with Fowler's octagonal house design. The drive for healthy, efficient buildings influenced the development of unconventional house forms, such as the hexagonal and octagonal shapes of Irwin and Fowler, respectively. Fowler's motivations toward

[33] Perrin argued that Wisconsin was only behind New York and Massachusetts in number of octagonal buildings, while McCarley cites Wisconsin and Michigan as the two states in the Midwest with the most examples.
[34] Rebecca Lawin McCarley, "Orson S. Fowler and a Home for All: The Octagon House in the Midwest," *Perspectives in Vernacular Architecture* 12 (2005): 58.
[35] McCarley, 63.

designing the octagon house were broadly influenced by his phrenological training, and more specifically by the new familial role he found himself in. Fowler needed to house his new family and designed the octagon house as a suitable and healthy building form to achieve it.[36] While Fowler was influenced by his phrenological background, Irwin was similarly motivated by concerns for a healthy living space.[37] Heisner continues the comparison with her analysis of why Fowler's architectural stylings gained momentum, while Harriet Morrison Irwin's failed to do so: "Part of the reason for the octagon house fad must have resided in the thoroughness of his [Fowler's] instructions on all aspects of the building's design and construction."[38] Fowler's thoroughness and attention to detail, Heisner argues, was central to the popularity the octagon form experienced.

Multiple sources cite 1850-1857 as the period in which the octagon house form reached peak popularity.[39] The first edition of Fowler's book was published in 1848 and quickly gained popularity, while the 1857 edition of the book occurred just as the country was experiencing a financial panic. The 1860s were filled with well-documented conflict and the after-effects of the war. While reform was still a central part of American culture following the Civil War, the reform was instead focused on slavery and related topics.[40] A tangible example of the rapid decline of the octagon house is with Fowler's own

[36] Dwight L. Young, "Orson Fowler: To Form a More Perfect Human," *The Wilson Quarterly* 14, no. 2 (Spring 1990): 124.
[37] Heisner also argues, in some detail, that Irwin's design and promotion of the hexagonal house shape was spurred by concerns for a healthy living environment. Irwin's concern for a health originates in her own frail health, which Heisner argues is the primary motivating factor behind the design.
[38] Beverly Heisner, "Harriet Morrison Irwin's Hexagonal House: An Invention to Improve Domestic Dwellings," *The North Carolina Historical Review* 58, no. 2 (April 1981): 119.
[39] Walter Creese attributes in his broad study the years of 1850-1857 as the primary years of popularity. McCarley and Young both attribute the same date range.
[40] McCarley, 60.

octagon house, which he was forced to sell in 1859. By 1897, after decades of decay, the house that represented his work was demolished.[41]

Concrete/Comparable examples

Much of the literature chronicling the history of concrete focuses primarily on Portland cement-based examples. In his third edition of *A Home for All*, Fowler lists lime as one of the components of the gravel wall plan, stating "[the walls are] made wholly out of lime and stones, sand included, which is, of course fine stone. And pray what is lime but stone?"[42] Because of Fowler's inclination toward lime as a binder in concrete and much of the literature's almost exclusive focus on hydraulic binders (such as Portland cement), only a general history of concrete will be extracted from the sources. Pamela Simpson chronicles the history of concrete , attributing it to the Romans, before being lost until the Industrial Revolution in England.[43] Reese Palley gives a similar history of concrete, in much greater detail. Like Simpson, Palley doesn't touch on lime-based concrete, with her chapters completely omitting the nineteenth century history of concrete, focusing primarily on early Roman development and rediscovery in the twentieth century.[44] Somewhat similarly, Tom Peters concentrates on non-lime-based

[41] Young, 127.
[42] Fowler, 18.
[43] Pamela H. Simpson, *Cheap, Quick, & Easy: Imitative Architectural Materials, 1870-1930*, (Knoxville: University of Tennessee Press, 1999), 9-10. Simpson goes on to talk in greater detail about the history of concrete block in America, focusing on its development, rapid rise in popularity, and subsequent industrial changes. The topic of concrete block is of slight interest to this thesis, because both of arguments of acceptability of new materials and because one extant gravel wall plan house has a concrete-block rear ell.
[44] Reese Palley, *Concrete: A Seven Thousand-Year History* (New York, NY: The Quantuck Lane Press, 2010). Palley also takes an art-first approach in her book, focusing on creative uses for concrete. Additionally, she looks forward toward technological improvements in concrete.

concrete examples in the nineteenth century, focusing primarily on reinforced examples used in residential and structural capacities. Peters does, however, note pisé as an early cousin of concrete.[45] Jessica Golebiowski, in her study of pisé buildings in the South Carolina Lowcountry, notes that "modern constrictive definitions of concrete are too limiting and fail to take into account the long history of concrete and rammed earth and their similarities."[46] Dale Frens notes a comparable example of unconventional concrete use in his examination of a concrete roof in Doylestown, Pennsylvania.[47]

[45] Tom F. Peters, *Building the Nineteenth Century* (Cambridge, MA: The MIT Press, 1996), 58-59.
[46] Jessica Golebiowski, "Rammed Earth Architecture's Journey to the High Hills of the Santee and Its Role As An Early Concrete," (Master's thesis, Clemson University/College of Charleston, 2009), 164. Golebiowski provides the history and method of pisé construction in great detail. Additionally, she also includes tabby as a form of rammed earth, due to similarities in construction method, as well as regional use.
[47] Dale H. Frens, "Restoration of the Concrete Roof of the Mercer Museum in Doylestown, Pennsylvania." *APT Bulletin: The Journal of Preservation Technology* 33, no. 1 (2002): 13–19.

Chapter 3 : Augusta County's Architectural Heritage

Augusta County, Virginia, is located at the southern, or upper, portion of the Shenandoah Valley. The second largest county in Virginia in area, the county can be divided into three regions. The western region is defined by steep topography created by the Allegheny Mountains. The central region is a broad, agriculturally-rich portion of the Shenandoah Valley and is the most populated region of the three. Like the western region, the extreme eastern region is marked by steep, mountainous terrain, created by the Blue Ridge Mountains.

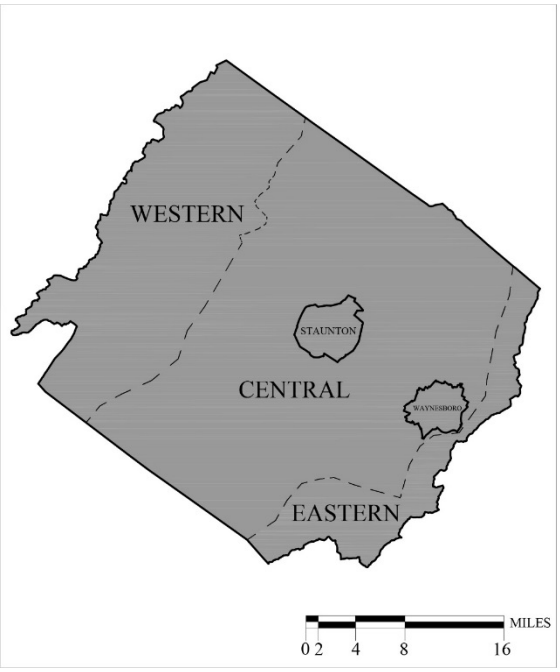

Figure 3.1: Map of Augusta County, showing the three geographic regions. Map: author, 2017.

Early History

In 1738, Augusta County was formed from Orange County. At that time, Augusta County encompassed the land from its current eastern boundary westward to the Mississippi River, though the western boundary was ambiguously defined. By the time of the county's formation, settlement had been slow and Augusta County was largely viewed as a buffer between the unsettled, French and Native American-controlled lands to the west and European settlements toward the coast to the east. A rich agricultural area, settlement had begun in the early eighteenth century when primarily Scots-Irish and Germans moved into the valley from points northward. With each ethnic group came unique cultural traditions, including building plans.

While both Scots-Irish and Germans settled in the county, comparatively few examples of the German immigrants' early architecture survive. A strong contingent of Germans settled in the Massanutten community of Rockingham County, to the north of Augusta County. Architectural historian Ed Chappell noted that, in general, German settlement in the Shenandoah Valley was generally confined to the region north of Augusta County.[48] As a result, few vestiges of early German influence in the county remain, though there are some notable examples. Chappell devoted much study to the architecture of the early Germans, both in the Massanutten community and in northern Augusta County. He argued that Augusta County's architecture changed during the period between settlement and the early nineteenth century. This change was a result of

[48] Chappell, "Cultural Change in the Shenandoah Valley," 8-9.

settlers' acculturation and the subsequent formation of a regional identity. Ethnic identifiers in house plan and decoration, while still present, played a more peripheral role in house design during this period, as a more unified regional identity began to take hold. This phenomenon was not exclusive to the Germans; the Scots-Irish were also part of the melding of cultures during this period. Precious few early log buildings remain, which is largely in part to the ephemeral nature of log as a building material.[49] What remains are more substantial, permanent stone houses. While overall assessments of early architecture in the county have been completed, the distinct lack of resources from before 1800 suggests that these assessments are skewed toward the more permanent architecture of the period.[50]

Antebellum

As Augusta County developed commercially, brick supplanted stone and log as the material of choice for more substantial houses. The emergence of brick coincided with a building boom during the first half of the nineteenth century.[51] This boom saw the "hall and parlor," "I-house," and "double-pile" forms take hold in the county. Much of the study of these building plans centers around usage of space. As time progressed, interior space was increasingly stratified with respect to public use. This stratification led

[49] McCleary, "Study Unit," 18.This assertion is reinforced by Ann McCleary in the opening words in the Introduction to House Plans section of "Study Unit": "Few houses built before 1800 survive in Augusta County. Beginning in the last two decades of the 18th century, a small wave of more substantial houses remain. The majority of these houses display masonry construction…"
[50] Both Chappell and McCleary emphasize this in their studies of Augusta County's architecture. While this caveat exists, the small handful of pre-1800 houses extant during McCleary and Chappell's time have been well documented, studied, and analyzed.
[51] McCleary, "Study Unit," 18. Chappell, "Cultural Change in the Shenandoah Valley," 76. This observation is shared by both Chappell and McCleary.

to a greater separation of public and private space, which eventually manifested itself in changed house plans. Changing house plans led to the development of the I-house in Augusta County and its eventual rise to prominence. The I-house is identifiable as a single-pile, two-story house with a center hall that divides two rooms. The I-house became the dominant building form of the Shenandoah Valley for substantial houses.[52] Use of space in the I-house form was very similar to that of the hall and parlor plan. The hall and parlor plan sought to divide public uses from private uses. The first floor consisted of a hall, used for interaction with the public, and a parlor, reserved for more private interactions, while the second floor was reserved for sleeping quarters. The I-house is a direct descendant of the hall and parlor, with a center stair passage added to add a further buffer between the public and the private.[53] This center passage divided larger rooms on either side.[54] The I-house became hugely popular throughout the county, so much so that the interior configurations of hall and parlor plan houses were sometimes changed to match the I-house plan.[55]

[52] Pamela Simpson, "The Molded Brick Cornice in the Valley of Virginia," *Bulletin for the Association for Preservation Technology* 12, no. 4 (1980): 30. Architectural historian Pam Simpson, who devoted much study to historic architecture in Rockbridge County, directly to the south of Augusta County, stated that "the brick 'I-house' was the mansion of the Valley."
[53] McCleary, "Study Unit," 76.
[54] Fred Kniffen, "Folk Housing: Key to Diffusion," *Annals of the Association of American Geographers* 55, no. 4 (Dec. 1965), 553. The I-house is named as such because of its early identification in Midwest states that begin with an "I" (Iowa, Illinois, Indiana).
[55] Biggers, Sam, "The Evolution of Architecture in the Barterbrook Area," *Augusta Historical Bulletin* 51 (2015): 15. One such example is the J.H. Stump House, located near the community of Barterbrook. Built with a hall and parlor plan, an interior rework, likely in the second half of the nineteenth century, saw the house resemble an I-house.

Figure 3.2: The J.T. Shields House, a ca. 1840 frame house located near Greenville. Photo: Ann McCleary, 1981.

Materials and decoration of antebellum-era houses in the county varied widely. Whereas stone had been used for house construction in the eighteenth century, its use in the antebellum period was largely relegated to foundations. Brick was the dominant building material, though log and frame examples were also common during this period (Figure 3.2).[56] Three- or five-bay symmetrical facades became dominant. For brick construction, Flemish bond was a popular choice for façades and other walls in view of the public, due to the bond's decorative nature. Further decoration was sometimes found in the form of glazed headers on Flemish façades or diapering on side elevations. Side and rear elevations were usually laid in 3-, 4-, or 5-course common bond. Chimneys were

[56] McCleary, "Study Unit," 80.

typically located either centrally or on gable ends.[57] Roofs were almost exclusively gable in shape, though some hipped roofs were built by the mid-century.[58]

Postbellum

The Civil War and the decade preceding it mark a shift, albeit gradual, in Augusta County's architecture. The I-house, while still prevalent throughout the county, was joined by the central-passage, double-pile plan as a representation of wealth for planters. While double-pile plans had existed in the county throughout the nineteenth century, many followed asymmetrical interior arrangements, despite the appearance of a symmetrical exterior façade. The years surrounding the Civil War saw builders embrace the symmetrical double-pile plan, closely resembling earlier Georgian plans.[59]

Brick remained a prominent material for house construction in the years directly after the Civil War. However, the use of frame became more common as the twentieth century neared. It was during this postbellum era that attitudes toward wood in home construction softened. In fact, earlier brick farmhouses were replaced routinely with new frame houses by the end of the nineteenth century. The Eutsler Brothers, in particular, were prominent builders who fueled this shift. Based in Grottoes, the Eutsler Brothers built houses primarily in eastern Augusta County, especially in Weyers Cave and

[57] Central chimneys are usually attributed to a German influence. Gable end chimneys were either interior or exterior, a distinction based on whether the chimney was visible from the exterior.
[58] Ann McCleary outlines trends in material, form, decoration, and style in "Study Unit." For this study, a broad overview was provided, in the interest of brevity.
[59] McCleary, "Study Unit," 45.

Grottoes.[60] While during the antebellum period, brick held a virtual monopoly as the material representation of wealth, a more democratic hierarchy took hold during the late nineteenth century. The Eutsler Brothers built houses that followed irregular plans, rather than symmetrical plans traditionally found in Augusta County. While the I-house and Georgian-plan remained the most popular building forms in the late nineteenth century, less regular forms began to gain acceptance.

Divergence from tradition in plan design coincided with a new building materials. Brick remained a popular choice, while frame became more popular as the twentieth century neared. One material, however, saw a peak in popularity after the Civil War. This material, which was always left as a question mark by both McCleary and Chappell, is gravel wall.

[60] McCleary, "Study Unit," 168. McCleary notes that "as one farmer had a Eutsler Brothers' house built, others in the community would soon follow. Harry Moffett recalls that his parents were so impressed by the neighboring R. Francis Wallace house that they had a house built immediately afterwards." This spread of building methods and materials by exposure of both proximity and personal relationship is a trend that is mirrored in the spread of the gravel wall plan in Augusta County.

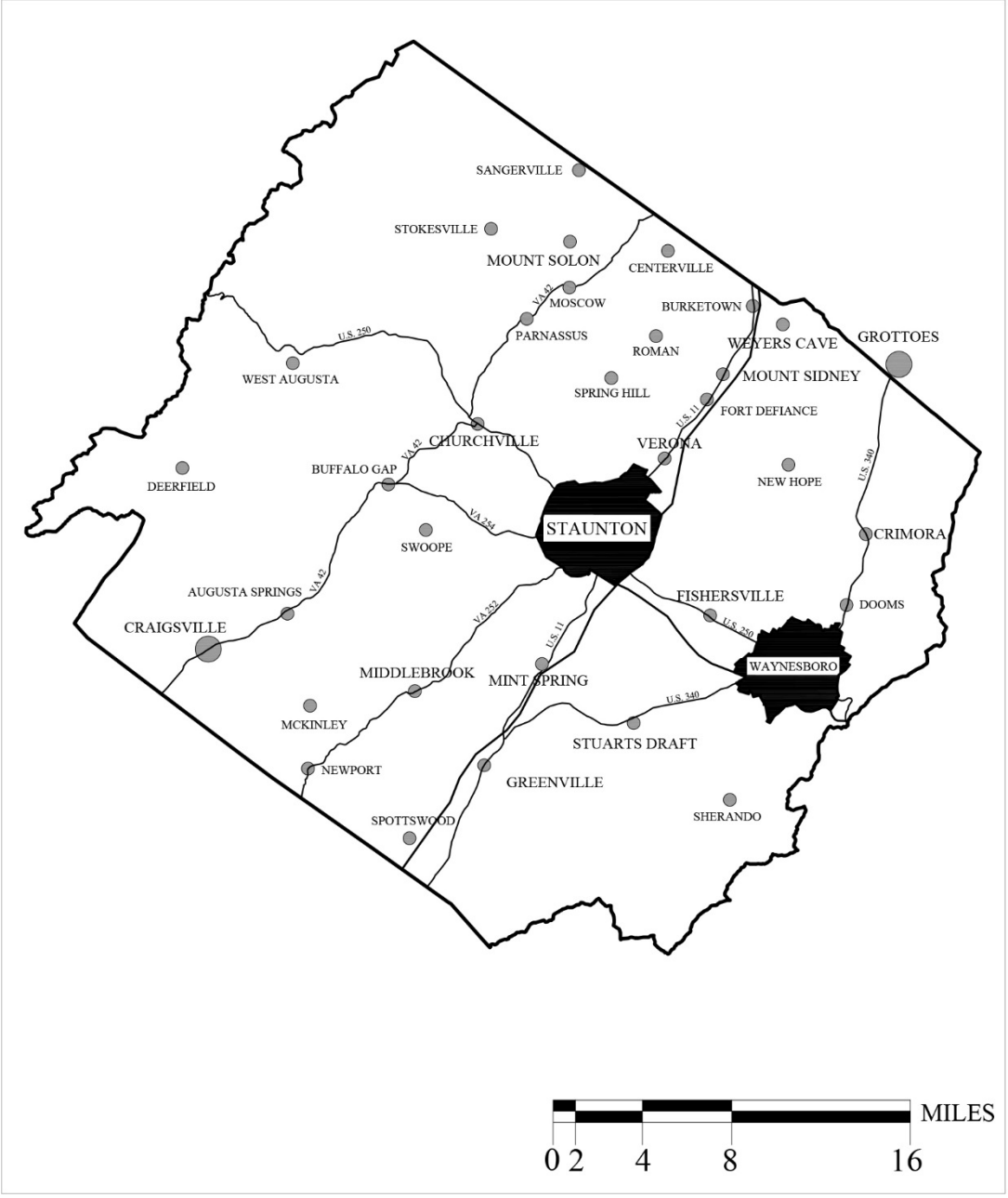

Figure 3.3: Map of Augusta County, showing major roads, as well as communities, towns, and cities. Map: author, 2017.

Chapter 4 : The Gravel Wall Plan in Augusta County

Proposed and promoted by Orson Fowler, gravel wall was both a material and a method of construction. Fowler introduced the material in the third edition of his work on octagonal architecture, entitled *A Home for All*, discarding the board-wall construction from the first edition. A common theme behind both editions of *A Home for All* was practicality, which Fowler argued for when discussing method, materials, and form. Between around 1860 and 1900, Fowler's writings were woven into the local building industry of Augusta County, Virginia, and the surrounding area. While only one octagonal house exists in the area, at least eighty-eight gravel wall buildings were constructed by builders familiar with *A Home for All*. These builders, often with backgrounds as stonemasons, were selective in their acceptance of Fowler's writings. This selectiveness is reflected in the high number of gravel wall buildings and the extremely low number of octagonal houses. While gravel wall construction fell within the repertoire of some builders, it was relatively rare compared to brick and frame construction. Because gravel wall's popularity was in its infancy among the Augusta County public, patterns exist chronicling its spread through the county. As the method spread, architectural similarities between buildings developed. These similarities exist outside of prevalent building forms and styles that existed in post-Civil War Augusta County. Gravel wall builders focused on massing, their singular task. Other duties, such as carpentry, plastering or stuccoing, and painting were divided among other craftsmen.

Orson Fowler

Orson Fowler saw his works on architecture as a support to his profession as a phrenologist. Phrenology was a nineteenth-century school of thought accepted by many to make sense of the human mind and argued that the size and shape of the human brain could reveal facts about tendencies. Now considered largely obsolete and in many cases racist, the discipline of phrenology is firmly rooted in America's progressive antebellum era. Fowler's works fall within this broad spirit of reform that swept through the United States during the antebellum years. In the first edition of *A Home for All*, Fowler devoted considerable space to his phrenologically-based approach to architecture. Fowler began his argument by espousing the basic needs and desires of man, namely the need for shelter. Building upon that premise, he applied his phrenological approach, referring to men as "of a high order" or "weak" with respect to how different types of men treat house building. Using this basic phrenological argument, Fowler moved into his architectural argument. Fowler contended that the octagon form is an expression of radicalism that would push the field of architecture forward, and he argued that because it created a "comfortable and convenient mansion," it was the obvious form for builders of sound mind.[61] Fowler used this phrenological approach to frame the argument for the logic behind his octagon form. The octagon form, he argued, was a more logical choice than traditional rectangular forms because it used space more efficiently, promoted health

[61] O.S. Fowler, *A Home for All* (New York: Fowlers and Wells Publishers, 1850), 13.

through ventilation, and used materials that were cheap and accessible to the common man.

Orson Fowler advocated for board-wall construction in the first edition of *A Home for All*, released in 1848. In this method of construction, walls were built using sawn boards stacked one upon another (Figure 4.1). In 1853, Orson Fowler released his third edition, in which he replaced the board-wall method of construction with a new material and method: the gravel wall. While only one example of board-wall construction has been identified in Augusta County, at least forty-six gravel wall buildings exist in the county. The gravel wall's modest popularity in Augusta County between 1859 and 1900 can be attributed to a number of factors. Fowler outlined the gravel wall plan in selective detail in *A Home for All*. Some facets of the process were described in detail, such as the construction and erection of formwork to pour the walls. Other details, such as the proportions of ingredients in the gravel wall, were given in more general terms. This ambiguity left much open to interpretation, as is evident with builders in Augusta County.

Figure 4.1: A section of board-wall from the McCue House (AU23). Notice that the boards are offset from one another, as Fowler suggests. Photo: author, 2017.

Gravel Wall as a Material

Four ingredients comprise the gravel wall. Lime, which served as a binder, was mixed with fine aggregate (sand), before the introduction of water to begin the chemical process and create a viscous mortar. This mixture was paired with large aggregate in the form of stones to build the gravel wall. “Gravel wall” is perhaps misleading due to our modern interpretation of gravel. Fowler states in his initial description of the wall’s contents that the “stone requires to be of various sizes, from tolerably fine sand, all the

way along up to stones as large as you can well deposit."[62] While sand was used as a fine aggregate, builders in Augusta County using Fowler's book used larger fieldstones to comprise the majority of the walls. At the Irvine House (Figure 4.2), medium-sized rock was mixed with a mortar slurry to construct the walls. Located at the base of the Allegheny Mountains in the western portion of Augusta County, the house uses smooth stones, which suggests they were gathered from the bed of the nearby Calfpasture River. The large aggregate accounted for the majority of the mass of the wall, while the mortar acted as a glue, which, when dried, bonded the wall together. When describing the desired proportions of lime to sand, Fowler stated "to eight barrows of lime, I usually wheeled in from sixteen to eighteen barrows of sand."[63] These proportions roughly equate to a 1:2 mix (lime: sand). However, mortar analysis reveals that the proportions used in Augusta County varied widely. On average, the mortar was comprised of 22% fine aggregate (sand), 22% binder (lime), and 46% fines (silt and clay). Taken literally, this mix used a 1:1 ratio of lime to sand, but Fowler makes no mention of clay and silt.

[62] O.S. Fowler, *A Home for All*, 2nd ed. (New York: Dover, 1973), 20.
[63] O.S. Fowler, *A Home for All* (2nd ed.), 25.

Figure 4.2: The south elevation of the Irvine House (AU21), showing the size of the stone used for the gravel wall mixture. Photo: Author, 2017.

The unexpectedly high level of fines in gravel wall buildings throughout Augusta County might suggest that builders used an alternative to the gravel wall material. Fowler referred to this alternative material as the clay and stone wall and argued that it was especially effective in regions "where clay was handy and sand not."[64] Lime was not needed for clay and stone wall construction, as the wall achieved rigidity and strength from the mixture of dried clay and large stones. However, the existence of lime in all gravel wall mixes inspected suggests that clay and silt were not intended to act as the bonding agent for the mix. The more likely explanation is that the unusually high levels of fines were a result of the extraction process, not a result of an alternate construction

[64] O.S. Fowler, *A Home for All* (2nd ed.), 49.

material. Augusta County's extensive hydrological network was useful not only as a source of water, but also of sand. The amount of sand needed to create enough mortar for the gravel wall mix was considerable, however. Though creeks and streams abound in the county, the vast amount of sand needed would only have been available from rivers. In the county, the chief rivers are South, Middle, North, Calfpasture, and Little Calfpasture Rivers. In meandering river courses like that of the Middle River, large amounts of sand are deposited in the bends, making the bends prime locations for sand extraction. The high degree of variation in mortar composition between sites suggests that builders did not used a refined process when creating the mortar. When the sand was extracted from rivers, clay and silt likely came with it. If the assumption is made that sand was extracted from rivers, and that the extraction process perhaps accounts for the high percentage of clay and silt content, the proportion of lime to sand (and fines) is closer to 1:3. The high amounts of clay and silt found in the mortars further backs the claim that Peterson and other builders used a relatively unrefined method.

Development of the Gravel Wall Plan

An 1882 letter to the editor of the *Staunton Spectator* serves as the most comprehensive resource for the study of the development of the gravel wall plan in Augusta County. The letter, written by J.M. McCue, highlights his role in the spread of Fowler's writings through the county, first through a singular example of board-wall construction, then through over two decades of gravel wall construction. McCue did not hesitate in his self-praise, claiming that his initial efforts led to the spread of the gravel

wall method not only through Augusta County, but throughout the United States. "So Mr. Editor," McCue wrote, "the pebble dropped in the lake by your correspondent in the fall of 1859 is now sending waves to the remote parts of the Union." [65] McCue boasted that his initial interest in Fowler's writings led him to procure a builder and provide him with a copy of the third edition of *A Home for All*. This builder, William Peterson (and later his son), built eighty-eight buildings in Augusta County and surrounding counties, almost entirely of gravel wall construction.[66] This 1882 letter to the editor of the *Staunton Spectator* serves as the link between a smattering of previously misidentified houses and Fowler's *A Home for All*.

In 1859, J.M. McCue contracted with William Peterson to build his house (Figure 4.3), which Peterson constructed of board-wall.[67] McCue spared little expense on his house, as evidenced by his efforts on the interior. He hung large seven-foot tall walnut doors throughout the house, each with two panels of walnut burl. The intricate house followed a double-pile, central passage plan. Architectural historian Ed Chappell noted that architectural similarities existed between the board-wall McCue House and brick houses built locally during the same period.[68] This observation hints at what was to come when Peterson and other builders picked and chose what of Fowler's writings they embraced. Builders' reluctance to abandon historic building methods is further evidenced

[65] J.M. McCue, "The Concrete Building," *Staunton Spectator* (Staunton, Va.), Sept. 12, 1882.
[66] Peterson and his son also built gravel wall buildings in nearby Albemarle, Rockingham, Rockbridge, and Highland Counties. Because this study focuses on Augusta County, buildings in other counties were noted when possible, but were not explicitly studied.
[67] The McCue House (AU23)
[68] Edward Chappell, "Cultural Change in the Shenandoah Valley: Northern Augusta County Houses Before 1861," (Master's thesis, University of Virginia, 1977), 122.

in the construction of interior walls in the McCue House. Despite Fowler's instructions to use the overlap on stacked boards as a means for attaching plaster, vertical lath served as the substrate for interior plaster (Figure 4.4). While vertical lath could be argued to be ineffective, its use in Augusta County is not without precedence (Figure 4.5).[69] Using lath as a substrate for plaster was standard practice among builders and carpenters, and their use of vertical lath, despite Fowler's ardent claims that overlap on boards was a sufficient key, shows how tied to tradition local builders were.

Figure 4.3: The McCue House (AU23), built by William Peterson for J.M. McCue. Photo: author, 2017.

[69] Vertical lath was also found at the James Harris Callison House, an 1849 log house near Newport, in the southern portion of Augusta County. The house is currently undergoing demolition.

Figure 4.4: A window added by the current owner of the McCue House that shows the board-wall and vertical lath. Photo: author, 2017.

Figure 4.5: Ghost marks indicating the existence of vertical lath in the James Harris Callison House (DHR# 07-573). This house was not a gravel wall house. Photo: author, 2018.

Evidently impressed by Peterson's craftsmanship, McCue put the builder to work on new additions to his property. McCue's preference by 1860 had shifted to gravel wall, just a year after the erection of his board-wall house. The reasons for this shift are unclear, as Fowler's third edition promoting gravel wall construction had already been available for seven years. Whatever the reason, McCue contracted Peterson to build a two-story gravel wall rear ell onto his new house. Though not explicitly mentioned in the article, a single-story gravel wall carriage house adjacent to the McCue House was likely constructed concurrently with the gravel wall kitchen (Figure 4.6 and Figure 4.7). Clearly, McCue's enthusiasm for Fowler's architectural writings did not discriminate by material. McCue's decision to build his home out of board-wall likely came after acquaintance with other examples inspired by Fowler's writings.[70] Perhaps the prominent 1856 Steven Harnsberger House in Grottoes served as inspiration to embrace Fowler's writings.[71] However, unlike the Harnsberger House, the house Peterson built for McCue in 1859 did not rigidly adhere to Fowler's octagon form. This allegiance to familiar forms was a trend that would persist for the next forty years.

[70] The McCue Family Papers collection, at the University of Virginia, were not consulted for this study, but could provide insight into the motivations and finances behind the construction of J.M. McCue's board-wall house and gravel wall addition and outbuildings. In particular, the account book of John H. McCue, 1857-1869 in Box 28 has potential to shed light on his building activities and interaction with Peterson.
[71] The Steven Harnsberger House is mentioned in the 1882 *Staunton Spectator* article as not only "concrete," but also the first concrete house in the state. The house (DHR ID #228-5022) is located in Rockingham County, just over its boundary with Augusta County, and is close both geographically and stylistically to the Harnsberger Octagonal Barn (a few miles apart). While the National Register nomination notes the house's construction material as brick, a field survey and this newspaper article suggest that it is built of gravel wall material. The house's location and status as an early use of Fowler's form and material point toward this house playing a major role in the acceptance of Fowler's writings in the Valley.

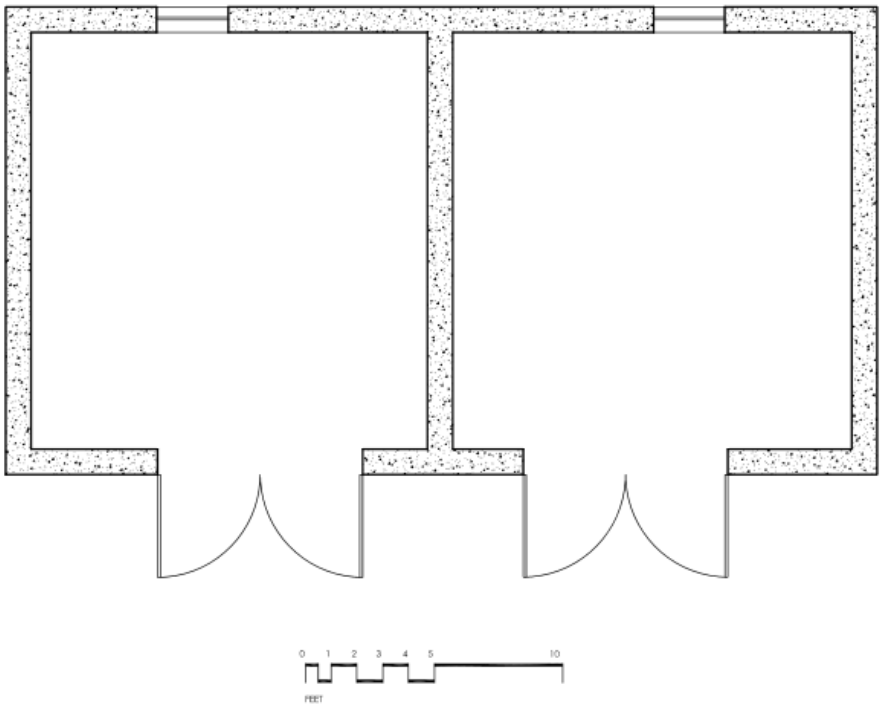

Figure 4.6: Plan of the gravel wall carriage house adjacent to the McCue House, constructed ca. 1860. Plan measured and drawn by the author, 2017.

Figure 4.7: The carriage house adjacent to the McCue House. Photo: author, 2017.

William Peterson later went on to build dozens of gravel wall buildings in the county with the help of his son, William H. Peterson. Census records suggest that the Petersons resided at their home in northern Rockingham County during their time as builders of gravel wall buildings. Once William H. was of age, he took up residence near Dayton, Virginia, in southern Rockingham County. At the time of McCue's article in 1882, William Peterson was ninety years old, and had likely not been active in the building trades for some time. Indeed, William H. appears to have taken over much of the building duties from his father as early as 1868 (Figure 4.8). In 1868, William was seventy-six years old and William H. was thirty. The transfer in duties likely occurred soon after 1860 when William (already sixty-eight years old) constructed McCue's house and kitchen addition. Because this shift likely occurred so early in the documented history of gravel wall buildings in the region, William H. was likely the true driver of gravel wall construction, not his father. While the father began the movement, his son grew and expanded it both stylistically and geographically.

Figure 4.8: A carved cornerstone at the 1868 Switzer House, signed by William H. Peterson. Photo: author, 2017.

While many newspaper articles mention the Peterson family as builders of gravel wall buildings, the construction of the Pleasant View Church in 1879 gives some insight into the extent of skills and manpower needed for construction (Figure 4.10). The roles, all separate, were "concreting" completed by Elisha Curry, woodwork by I.W. Airey, plastering by Daniel Shott, and painting by B.F. Cox. (Figure 4.9)[72] This group effort provides a glimpse of how many gravel wall houses were built. Peterson and others (such as Curry) focused on the bones of the building (laying the foundation, forming and pouring the walls, creating openings for windows and doors, etc.), while other tasks were divided and assigned to local craftsmen. Census records from throughout his adult life list Elisha Curry as a stone mason, a profession in which his father also worked. Whereas the Petersons were based in Rockingham County during their career as gravel wall builders, Curry was listed as a resident of the North River District of Augusta County. Additionally, the other craftspeople who constructed the Pleasant View Church resided locally within Augusta County. Isaac Airey (also Airy, Ayre) resided in the North River District and was listed as a carpenter in census records. Daniel Shott, noted as working as a plasterer, resided in the Beverley Manor District, and Benjamin Cox, working as a house painter, resided in the city of Staunton. Because stone construction had been supplanted by brick and frame by the post-Civil War era in Augusta County, stonemasons were likely confined to laying stone for basements. Thus, gravel wall construction offered an opportunity for stonemasons to practice their craft, albeit in a simplified form. Additionally, the division of tasks outlined in the newspaper article shows that, in terms

[72] "Dedication of 'Pleasant View' Church," Staunton Spectator (Staunton, Va.), June 24, 1879.

of division of labor, the process of constructing gravel wall buildings was likely very similar to building out of brick. Craftsmen were specialized and each task was assigned accordingly.

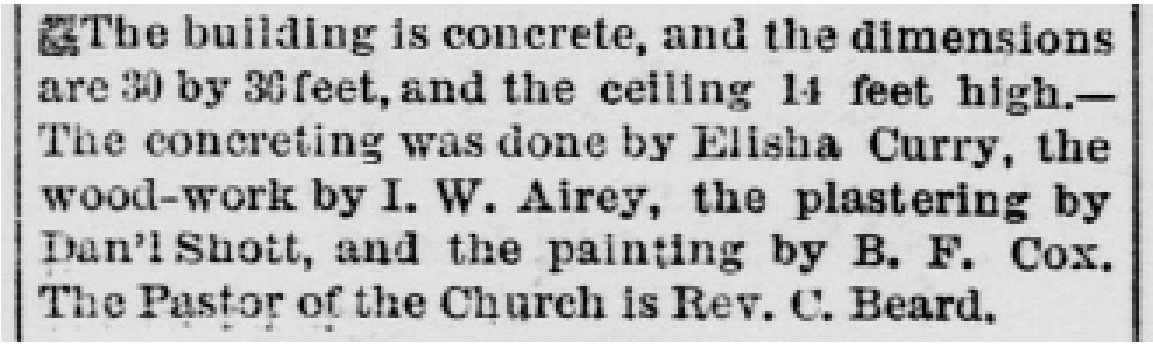
The building is concrete, and the dimensions are 30 by 36 feet, and the ceiling 14 feet high.—The concreting was done by Elisha Curry, the wood-work by I. W. Airey, the plastering by Dan'l Shott, and the painting by B. F. Cox. The Pastor of the Church is Rev. C. Beard.

Figure 4.9: An excerpt of a June 24, 1879 *Staunton Spectator* newspaper article entitled "Dedication of 'Pleasant View' Church."

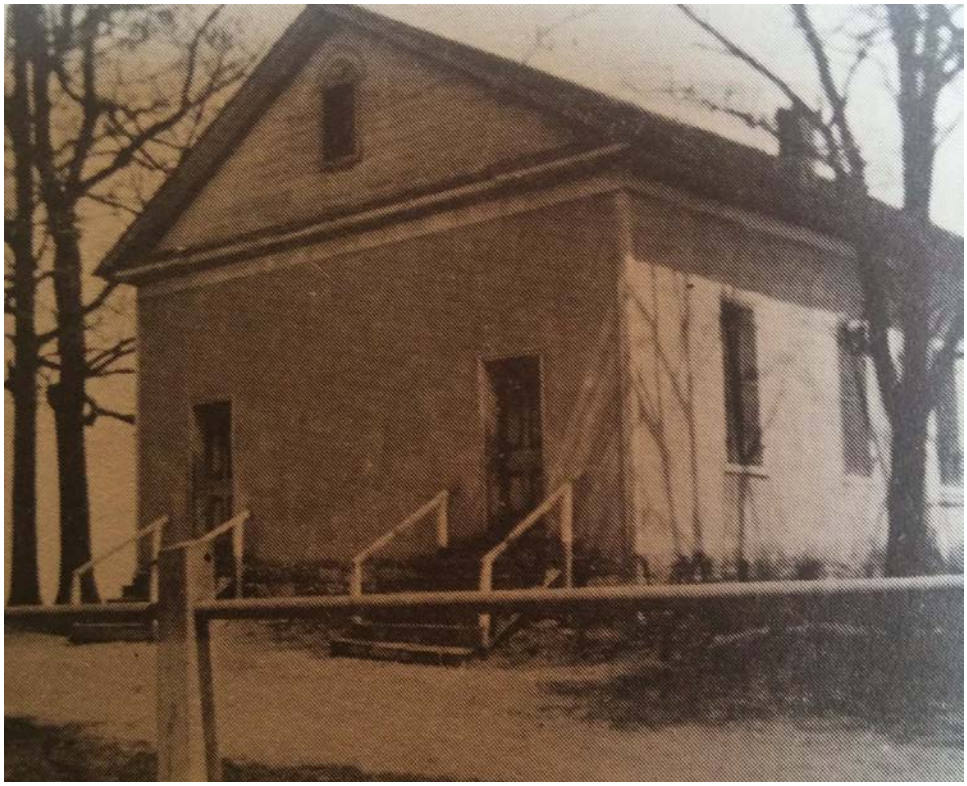

Figure 4.10: Pleasant View Church. Photo: from "A Century of Faith," date unknown.

William H. Peterson trained at least two apprentices. These apprentices, John O. Casler and James E. Taylor, reportedly moved on to Texas and Preble County, Ohio, respectively. Thus the gravel wall method of construction, as McCue put it, sent "waves to the remote parts of the Union."[73] By the 1880s, a G.W. Peterson was involved locally in the building trades and completed the "concrete work" for Grace Church's parsonage in Middlebrook.[74] Perhaps this was the same "Mr. Peterson" mentioned as completing similar work on the nearby Sensabaugh House in 1892, though few documents survive that would shed light on his relation to William and William H.[75]

Newton Baylor's account book from the construction of the Sensabaugh House (Figure 4.11) in 1892 still survives and sheds light on the various facets of gravel wall construction toward the end of its popularity.[76] The division of labor for the Sensabaugh House was similar to that of the construction of the Pleasant View Church in 1879. Peterson handled the wall construction, Harman Rosen the carpentry, Flavin and Watson the roofing and spouting, and Riley the plastering. Rates were as followed: Peterson was compensated 4 ½ cents per foot, Flavin and Watson 6 ¼ cents per foot for roofing and 10 cents for spouting, and Riley 9 ½ cents per yard. In full, Harman Rosen was compensated $375 for his carpentry work. The account book outlines major expenses for the construction, such as the purchase of materials. Brick, nails, pulleys and screws, laths,

[73] J.M. McCue, "The Concrete Building."
[74] "Middlebrook Matters," *Greenville Banner* (Greenville, Va.), Aug. 20, 1884.
[75] "Middlebrook," *Staunton Spectator* (Staunton, Va.), Aug. 10, 1892.
[76] The construction of the Sensabaugh House (AU1) was noted in the *Staunton Spectator* in two separate 1892 entries; one from May 4, the other from August 10. The article noted that a "Mr. Peterson" was the builder of the house. "Mr. Peterson" could refer to William H. Peterson, who was fifty-three years old in 1892, or G.W. Peterson, who was noted as being involved in gravel wall construction in 1884, when he built the nearby Grace Church Parsonage.

and animal hair for plaster are all mentioned explicitly in the account book. The book suggests that the lime for the house was slaked onsite in a kiln. The current owner has suggested that a circular depression in the side of a hill across the road from the house was the site where lime was burned and prepared for use in the walls. Thirty-eight dollars and five cents of rock powder, presumably crushed limestone, was purchased early in the building process, along with an expenditure of three dollars for the construction of a lime kiln. Later in the building process, a load of lime was purchased for seven dollars and fifty cents, before two other lime orders, one of nine barrels for four dollars and fifty cents and the other of three barrels for one dollar and fifty cents, were completed. These large purchases of lime relatively late in the process could suggest that Peterson drastically underestimated the amount of lime needed for construction. Because Peterson was an experienced builder who had built gravel wall houses since at least since 1868, the more likely explanation is that lime was slaked in multiple batches. Perhaps loads of raw lime were purchased as the process progressed instead of all at once at the beginning. In total, the roof cost $29.50, the plastering $115.50, the carpentry $389.90, the painting $50.50, and Peterson's work $283.00. In total, the construction of the Sensabaugh House cost $2,113.68.[77] In land tax records, the Sensabaugh House was valued at $1,230, just over half of the cost to build.[78]

[77] The account book described in detail is in the possession of Fulton Sensabaugh, Middlebrook, Virginia.
[78] Augusta County land tax records, accessed at the Augusta County Courthouse, Staunton, Virginia. The 1893 entry for Newton Baylor notes that $1,230 was added as a result of new buildings.

Figure 4.11: The Sensabaugh House (AU1). Photo: author, 2017.

The Rise in Popularity of the Gravel Wall Plan

The central question behind this study is how and why the gravel wall mode of construction grew in popularity in Augusta County. Material properties must be considered, for if gravel wall was not a stable and durable material, its use would not have spread as quickly and widely as it did. Fowler espoused the superior strength of gravel wall construction, inspired by an 1850 trip to Janesville, Wisconsin, which served as the catalyst for the third edition of *A Home for All*. During the trip to Wisconsin, Fowler noted seeing "houses built wholly of lime, mixed with that coarse gravel and sand..."[79] So impressed was Fowler by the gravel wall construction he saw in Wisconsin

[79] O.S. Fowler, *A Home for All* (2nd ed.), 19.

that he entitled chapter 6 of the third edition of *A Home for All* "Wood is Objectionable." While Fowler had warmly promoted the board-wall method of construction in the first edition, he rejected and criticized the use of wood, all because of his discovery of a group of buildings in Janesville, Wisconsin.[80] This shift appears to also have occurred with J.M. McCue, who contracted with Peterson to build a board-wall house in 1859, before transitioning to gravel wall for a kitchen addition and a carriage house just a year later. Perhaps this shift occurred on the grounds of superiority from a material standpoint. Perhaps cost of material weighed heavily in the decision. Whatever the reason, the shift that McCue and Fowler both made had very little effect on the citizens of Augusta County. To date, no other stacked plank buildings have been identified in Augusta County. Peterson, other builders, and the citizens of Augusta County accepted gravel wall as a viable material for construction.

Residents of Augusta County likely viewed the gravel wall method of construction as compatible both with available resources and prior building traditions. Though stone construction largely died out in the county by the turn of the nineteenth century, early stone houses, many built by German settlers, were still prominent on the Augusta County landscape. Stone buildings served as strong links to Augusta County's not-so-distant frontier past. Citizens of the county saw Fowler's material as a more accessible cousin of earlier stone construction. Traditions of building with stone remained visible on the landscape, but unlike these early examples, gravel wall required much less

[80] Janesville, Wisconsin has a well-researched grouping of pre-Fowler "grout" wall buildings. A comprehensive 1978 thematic National Register of Historic Places district encompassed a number of buildings, including the ones mentioned expressly by Fowler in *A Home for All*.

masonry skill. With stone construction, each stone needed to be carefully chosen, cut, and laid. The process behind gravel wall construction was much less precise and skill-intensive. Gravel wall construction gave stonemasons an opportunity to apply their trade to a cousin of stone construction, as in the case of Elisha Curry. Additionally, the materials comprising a gravel wall building were found in abundance throughout the county. Beneath Augusta County lies a layer of limestone, meaning that both stone and raw ingredients for lime production are readily available. The William Glenn House (Figure 4.12) was constructed just a quarter of a mile from a stone quarry (Figure 4.13) and lime kiln. This operation extracted limestone both for use as building stone and for further refinement to produce slaked lime in the kiln, providing two of the three necessary elements for the construction of the William Glenn House. The house's close proximity to the South River provided an abundant source of sand, the final element needed for construction. Other similar examples exist throughout the county. A lime kiln was noted in Jedidiah Hotchkiss's 1885 *Historical Atlas of Augusta County* near Tinkling Spring Church. In very close proximity to this kiln was the ca. 1883 Gilkeson House and the ca. 1882 Harnsberger House.[81] Likewise, the map noted another lime kiln on the outskirts of Fishersville, close to both the Watson House and the Bell House.[82] With its extensive hydrological network, when combined with its abundant limestone underlay, Augusta County was well suited for gravel wall construction.

[81] AU46 and AU37, respectively.
[82] AU40 and AU39, respectively.

Figure 4.12: An October 1981 view of the William Glenn House. Photo courtesy of the Virginia Department of Historic Resources.

Figure 4.13: An October 1981 view of Black's Quarry (DHR #07-850), across the road from the William Glenn House. Photo courtesy of the Virginia Department of Historic Resources.

Gravel wall buildings are found throughout Augusta County, from the mountainous regions on the west and east to the arable region in the central part of the county. However, there are two areas of dense concentration of gravel wall buildings. The community of Roman, located to the northeast of Spring Hill, has a cluster of five gravel wall buildings. Similarly, eight gravel wall buildings are clustered around the village of Middlebrook. The motivations behind the spread of the gravel wall plan are outlined above. However, the question remains as to how the gravel wall plan spread through the county. With its acceptance as a viable building material, gravel wall construction spread through the county through personal interaction. For instance, during the construction of the Harnsberger Octagonal Barn in 1867, carpenters allegedly found difficulty with the octagonal shape and turned to William Evers and others to help with the project. William Evers, apparently held in high esteem within the carpentry trade in Augusta County, resided near Centerville in the northern section of the county. Evers' exposure to Fowler's writings through his work on the barn must have had an impact on him, because he contracted with William H. Peterson to construct a gravel wall house. The cornerstone for the Switzer House was laid in 1868 and initialed by W.H.P. (William H. Peterson) and O.H.C. (unknown). This web of interpersonal relationships comes full circle from its beginning with Stephen Harnsberger and his octagonal house in Grottoes. Stephen Harnsberger's octagonal house in 1857 served as the inspiration for his brother's octagonal barn in 1867. William Evers' involvement with the octagonal barn led to the construction of his house by Peterson in 1868. This example of personal connections can likely be replicated from building to building and was likely the main driver of the spread

of the gravel wall method through Augusta County. Pleasant View Church's 1879 dedication announcement in the *Staunton Spectator*, which gave insight into the divisions of labor in gravel wall construction, named Rev. C. Beard as the church's minister. Christopher Beard appears in the 1880 census as the pastor of a Lutheran church and appears on the 1885 Hotchkiss map as residing close to Waynesboro, some distance away from Pleasant View church. The Rev. Beard House is listed on this study because of its architectural similarities with other gravel wall houses, namely the use of stucco as an exterior coating. Perhaps Beard's house was constructed using gravel wall, and Beard was impressed with the material and suggested it for the new church building.

While the gravel wall method of construction was most popular in largely rural areas, there are examples of its development in both Staunton and Waynesboro. In Staunton, three gravel wall houses were built for Col. Mike Harman in 1867.[83] These three houses have not yet been identified, but the 1885 Hotchkiss Atlas shows a Mrs. Fannie Harman residing at 319 Vine Street. The house at 119 Points Street is stuccoed and architecturally similar to other gravel wall houses, which suggests that it may be one of Harman's three houses (Figure 4.15). Relatively early in the history of gravel wall houses in the county, Harman's gravel wall houses apparently inspired others to build in the same manner. An 1867 *Valley Virginian* newspaper article noted that E.L. Edmonson planned to build "13 Concrete or Pebble houses in ¼ acre lots carved out of his property on Coalter Street above Col. M.G. Harman's."[84] Though it appears that this ambitious

[83] J.M. McCue, "The Concrete Building," *Staunton Spectator* (Staunton, Va.), Sept. 12, 1882.
[84] "Town Improvements," *Valley Virginian* (Staunton, Va.,), Sept. 11, 1867.

plan never saw fruition, there are a handful of buildings in and around Staunton's Gospel Hill and Stuart Addition neighborhoods that could be potentially attributed to Harman, Edmonson, or others who were familiar with Fowler's work (Figure 4.14).

Figure 4.14: 119 Points Street, located in the Stuart Addition Historic District. This house shares many architectural similarities with gravel wall houses in the county, namely the three-bay facade, stucco render, and paired brackets over second story windows. Photo: City of Staunton Geographic Information System.

Figure 4.15: 319 Vine Street, Staunton, Virginia. Photo: City of Staunton Geographic Information System.

Documentary sources point toward a less substantial development of the gravel wall plan in Waynesboro. At the time of its construction, the Rev. Beard House was located well outside of the Waynesboro town limits, despite today falling just within the city's boundary. In 1900, a process resembling the gravel wall method was utilized in downtown Waynesboro, albeit in an altered format. W.N. Fishburne's building constructed using "Craigsville Portland Cement" used a process similar to poured concrete. The next chapter outlines the construction of Fishburne's building, which was more consistent with post-gravel wall construction in the county. However, because the method used is similar to gravel wall, it is of relevance here. Despite examples in both

Staunton and Waynesboro, the gravel wall plan was used primarily in rural areas. However, the development of gravel wall in Waynesboro is difficult to trace, primarily due to the lack of accessibility of the city's historic newspapers, a resource that has proved fruitful for identification of rural examples.

Visibility also played a prominent role in the placement of gravel wall buildings within the county. Many were built in close proximity to major transportation arteries, such as turnpikes and railroads. For instance, the ca. 1879 McCorkle Brothers Store was built in the heart of Middlebrook on the Staunton-Brownsburg Turnpike and was prominent enough to have an illustration of both its exterior and interior included in Jedidiah Hotchkiss's 1885 atlas of the county (Figure 4.16).[85] The building served a prominent role not only through its visibility, but also through its use. While the McCorkle Brothers Store is a useful example, it remains an outlier within the gravel wall buildings in the county, due to its status as a non-residential gravel wall building. Prominence, however, extended to gravel wall houses as well. The Col. Peyton House near Greenville was built in 1882 with heavy Gothic Revival details, even though the Gothic Revival had fallen out of favor in the county years before. In addition to the Col. Peyton House's unusual style, its location in very close proximity to the Valley Railroad and the Valley Pike. This proximity to rail was also found at the Maupin House near Stuarts Draft, which was constructed in 1882 for James Thomas Maupin and was located very near the Shenandoah Valley Railroad.[86] Other buildings, such as the May House and

[85] See building sheet for McCorkle Brothers Store (AU10)
[86] J.M. McCue, "The Concrete Building," *Staunton Spectator* (Staunton, Va.), Sept. 12, 1882.

the Tourje House, were built on busy thoroughfares, the May House on the Warm Springs Turnpike, the Tourje House on the Keezletown Road.

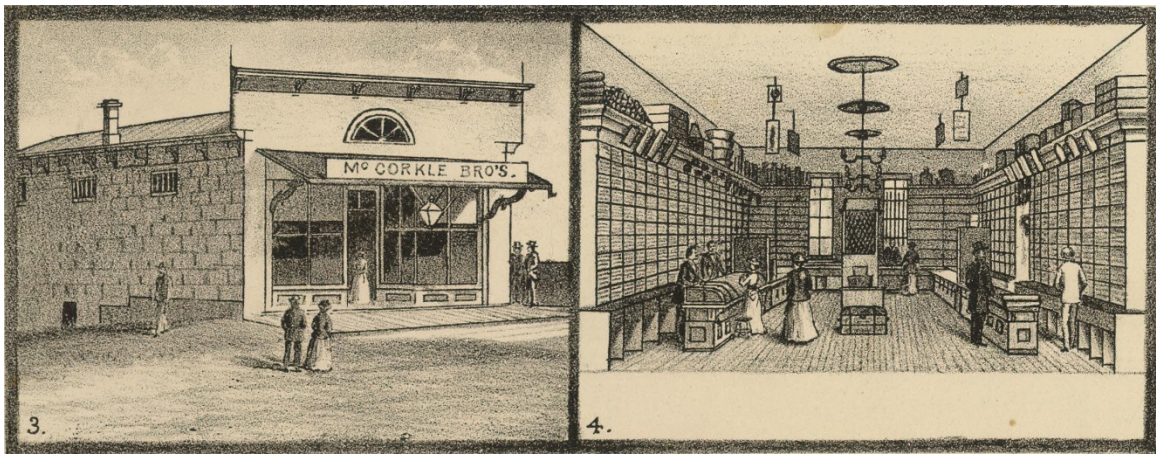

Figure 4.16: An illustration of the McCorkle Brothers store in Middlebrook from Hotchkiss's 1885 *Atlas of Augusta County*.

A large number of gravel wall buildings were built by industrious, prominent citizens. The aforementioned Edmonson was a local businessman who commercialized Seawright Springs. Edmonson bottled the spring's mineral water and envisioned Seawright Springs future as a resort similar to Saratoga Springs, the Greenbrier White Sulphur Springs, and others. His endeavors saw the construction of a sprawling hotel associated with the spring that opened in 1905. Though the hotel burned a few years later, Edmonson's industry is undeniable. His grand plan to build thirteen gravel wall houses in Staunton in 1867 is mirrored by his efforts to commercially develop the Seawright Springs property.[87] In addition to Edmonson, a number of other prominent individuals built gravel wall buildings. Military men were among these individuals. Mike Harman, Meredith Hogshead, and William H. Peyton, all colonels, all had gravel wall houses

[87] C.E. May, *My Augusta: A Spot of Earth, Not A Woman* (Bridgewater, Va., 1987), 338-339.

constructed, as did Captain William Hogshead.[88] The majority of men and women who had gravel wall houses constructed were involved in agricultural pursuits. There is little to differentiate these individuals from their counterparts who constructed out of other materials such as brick and wood. Many of the personal and real estate valuations listed in post-Civil War census records for owners of gravel wall houses are similar to those of their neighbors. This suggests that the gravel wall, while promoted by prominent, forward-thinking individuals, was no more a symbol of status than a brick or frame house of comparable size and detail.[89]

Despite the wide spread of gravel wall buildings through Augusta County, there are some areas where no examples have been identified. The northwestern, southwestern, and southeastern extremities of Augusta County are mountainous areas where settlement was sparse. As such, the gravel wall method is almost nonexistent in the county's mountainous areas. The Irvine House (Figure 4.2 and Figure 4.17) is one of the few examples of gravel wall buildings located in these regions. The house's remote location between West Augusta and Deerfield makes it an outlier, as does its unusual H-plan interior arrangement. Perhaps the most surprising area with sparse development is the Middle River District, identifiable by the large bends in the Middle River. The area's rich hydrology, specifically its bends, which allow for substantial sand deposits, make it a prime location for gravel wall construction. However, the area's lack of examples suggest

[88] J.M. McCue, "The Concrete Building," *Staunton Spectator* (Staunton, Va.), Sept. 12, 1882.
[89] While the vast majority of gravel wall buildings were constructed for farmers, there are a number of other occupations that owners filled. These included doctor (Dr. Robson, AU30; Dr. Watson, AU40), judge/politician (J.M. McCue, AU23), minister (Rev. Beard, AU31), blacksmith (J.S. Garrison, AU16), and miller (B.F. McClung, AU22). These occupations were determined largely from United States Census records, ranging in date from 1850 to 1900.

that location and available resources were not as effective drivers as word of mouth in gravel wall's spread throughout the county.

Figure 4.17: Detail of the wall construction at the Irvine House (AU21). Photo, author, 2017.

Architectural Similarities

Despite their largely un-studied and often misidentified nature, the majority of gravel wall buildings in the county exhibit similar architectural characteristics, which are crucial for field identification. Foremost is the use of stucco as an exterior render. Stucco is found sparsely throughout Augusta County. For instance, of the over one thousand buildings noted by McCleary in her 1983 report analyzing her architectural survey of the county, only thirty-eight were buildings noted as having a stucco render. Of those thirty-eight, seventeen either fell before or after the date of study (~1840s – 1900), leaving only

twenty-one potential examples of gravel wall construction. While examples of stucco renders over frame and log exist, they are found in very low numbers. The overwhelming choice for covering log in the county is weatherboard or clapboard. In slightly higher numbers, though still relatively low, is stucco over brick. However, for much of the nineteenth century, brick was a material that required much labor and expense, and as such was proudly displayed. Elaborate bonds, sometimes requiring considerable skill, molded brick cornices, decorative lintels, and in some cases glazed headers, were often prominent features of brick buildings in the county. The motivations of the few who stuccoed their houses is unclear and has not been studied in any depth.

When coupled with a stucco render, the use of wooden corner stiles (usually painted) is another identifier of gravel wall houses.[90] Apart from their decorative function, the stiles are a remnant of the construction process, serving as a vertical support for horizontal form boards (Figure 4.18). Fowler begins his instructions of wall construction with general instructions for the building of forms, which he describes in great detail, going as far as to state that it was "the most important point connected with this mode of building."[91] Fowler instructs builders to use scantling, which he describes as vertical wood members dimensioned "two by three, or two by four."[92] Ideally placed ten, twelve, or fourteen feet apart from one another, the scantling remained on the interior as the form boards were nailed to the outside to create the desired wall thickness. Fowler

[90] In this study, I refer to corner scantling and corner stiles interchangeably. "Stile" is a more colloquial term, while "scantling" is an antiquated term not often in use in modern construction sources, but is used explicitly by Fowler.
[91] O.S. Fowler, *A Home for All* (2nd ed.), 33.
[92] Ibid.

advised placing scantling at the corners to create a clean corner to stucco over. However, the vast majority of gravel wall buildings in the county have visible corner stiles, meaning that the corner stile was placed slightly proud of the other scantling. This extra space accommodated the thickness of the stucco and created a smooth, yet distinct, seam between the stucco and the corner stile. Some examples of buildings with non-visible corner stiles exist, such as the Wilkinson House (Figure 4.19), but there is evidence that the existing stucco render was a later addition, and as such did not conform to the original builder's intentions.

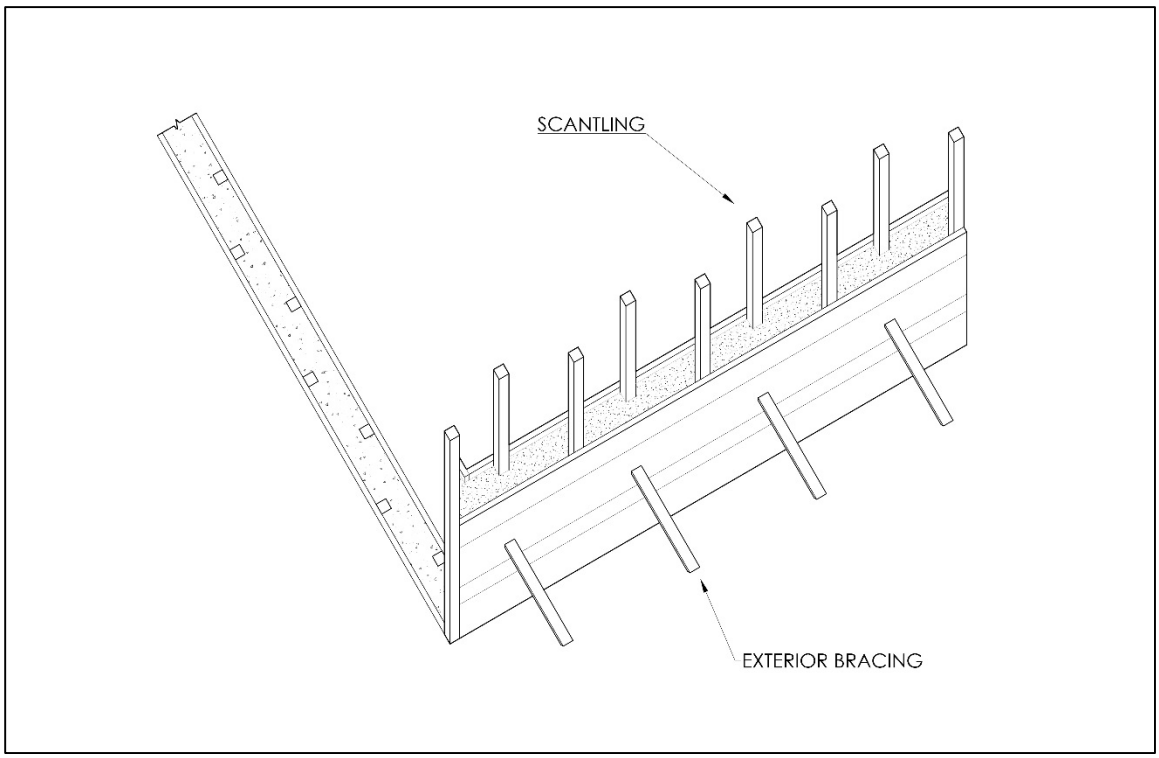

Figure 4.18: Conjectural formwork axonometric drawing. Drawing by author.

Figure 4.19: The Wilkinson House (AU27). Notice that the corner stiles are hidden under a modern stucco render. Photo: author, 2017.

Finally, each building surveyed as part of this study has a three-bay façade. One of a smattering of architectural elements that closely mirror the overarching trends of the period (trends that were discussed in depth in the previous chapter), the three-bay façade is completely consistent across all sites visited. Figure 4.20 shows the Gasque House, with its symmetrical three-bay façade, yellow stucco render, and corner stiles.

Figure 4.20: Front elevation of the Gasque House (AU7). Photo: author, 2017.

Types of Buildings

The vast majority of gravel wall buildings constructed in Augusta County between 1860 and 1900 were built for residential use, but a small handful of other buildings exist that served other purposes. These buildings adhere strictly to building forms prevalent during the second half of the nineteenth century, but use the distinctive gravel wall material in construction. Peterson and other builders only experimented within the confines of already established building styles and forms.

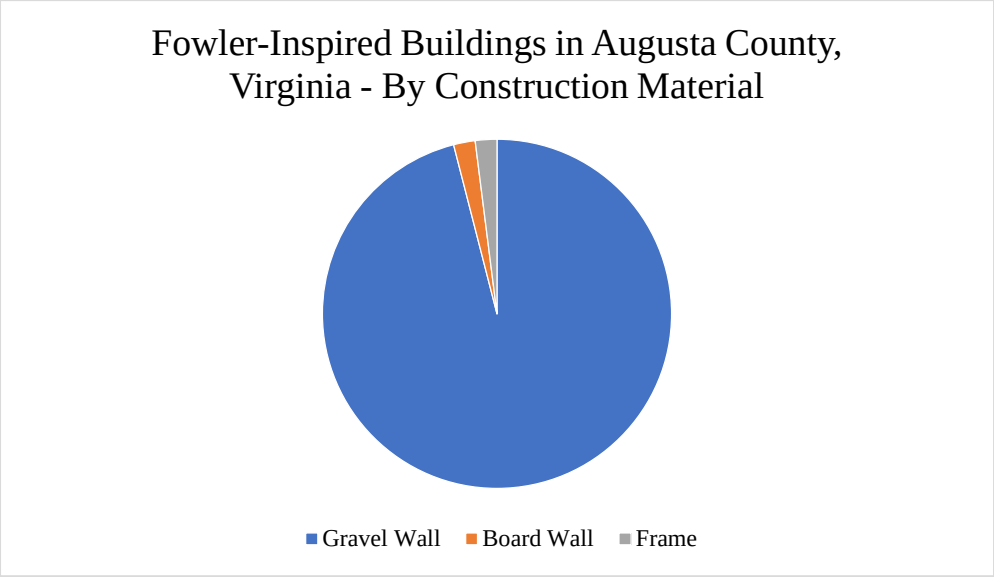

Figure 4.21: Fowler-inspired buildings in Augusta County by construction material. Author.

Of the fifty buildings identified in this study, forty-eight were constructed of gravel wall (Figure 4.21). The two not constructed in this manner were the McCue House and the Harnsberger Octagonal Barn.[93] The McCue House is an 1859 board-wall house and serves as the first tangible application of *A Home for All* in Augusta County. The

[93] AU23 and AU34, respectively.

Harnsberger Octagonal Barn is a frame octagonal barn located in the community of Mount Meridian in northeastern Augusta County. Listed on the National Register of Historic Places in 1982, the barn was built ca. 1867 by Robert Stephen Harnsberger. Harnsberger's inspiration for the octagonal form of his barn likely originated as a result of his relationship with his brother, Stephen Harnsberger.[94]

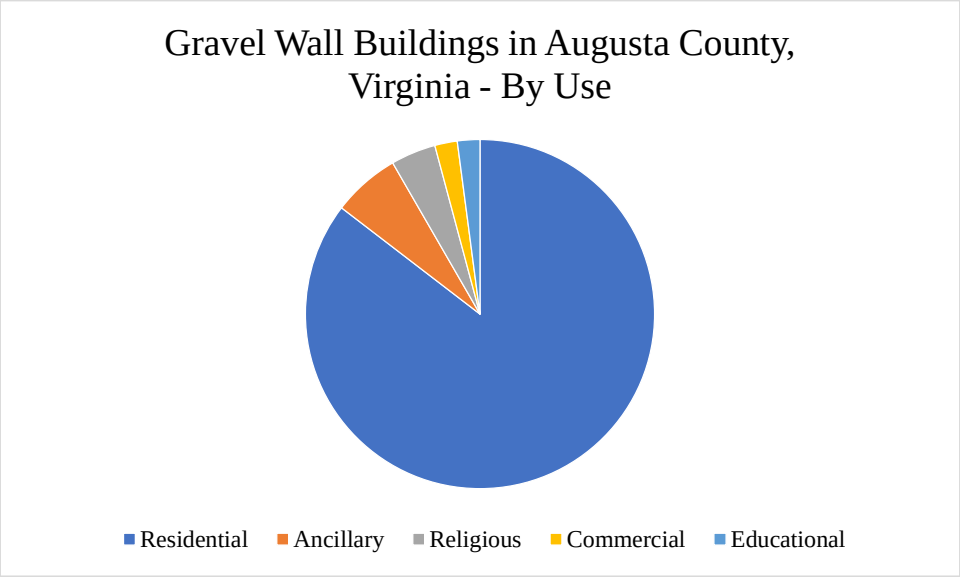

Figure 4.22: Gravel wall buildings in Augusta County by use. Author.

Of the forty-eight gravel wall buildings identified in this study, forty-one were used as residences. The uses of the remaining seven fall into four categories: ancillary, commercial, religious, and educational. Ancillary use encompasses any building whose use supported the primary residence. This study focuses away from ancillary buildings and toward residences and other larger-scale buildings. Nevertheless, three ancillary

[94] Staff. "Harnsberger Octagonal Barn." National Register of Historic Places Inventory/Nomination Form. Virginia Historic Landmarks Commission, Richmond, October 1980. Stephen Harnsberger had an octagonal house built in 1856 (the Stephen Harnsberger House). The house is located in Grottoes, Virginia, in Rockingham County just to the north of the Augusta County line, only two miles away from the Harnsberger Octagonal Barn.

buildings were identified. These buildings were the George House outbuildings, the Connor House outbuilding, and the Ritchie House outbuilding.[95] None of these buildings have been surveyed on their interior, and as such, a characterization of their plans cannot be completed. However, all of these buildings appear to follow small, one room plans, with the exception of the two-story gravel wall kitchen building at the George House property. Other ancillary buildings associated with gravel wall houses were noted, such as the remains of a springhouse at the Gasque House and a smokehouse at the William Glenn House.[96]

Only one gravel wall building used for commercial purposes was identified in this study. The McCorkle Brothers Store, built in 1879, is located in the village of Middlebrook, and has been extensively researched by Ann McCleary. Additionally, an 1885 illustration of the store's interior during the McCorkle Brothers' occupancy exists (Figure 4.16). However, the interior of the building was not inspected as a part of this study.

The Mount Pleasant Church building is the only existing religious gravel wall building identified. The church remains in a semi-ruinous state, but was surveyed, measured, and drawn as part of this study. Single-story and one-room, the church measures roughly thirty-four feet by thirty-eight feet. Two doors pierce the façade of the church. The church had largely unadorned wainscoting and was heated by a central

[95] AU19, AU42, and AU33, respectively.
[96] Ancillary buildings were designated their own building number only if they were the primary gravel wall building on the site. If a gravel wall ancillary building was associated with a gravel wall house, only one survey number was made, due to this study's focus on more substantial buildings. While forty-eight gravel wall buildings are listed, there are more, if ancillary buildings are counted.

stove.[97] No longer standing, but well-documented is the Pleasant View Church, once located just five miles from the Mount Pleasant Church. Built in 1879, the Pleasant View Church bore remarkable similarity to the Mount Pleasant Church, namely with the two front doors, gable-end entrance, and general form (Figure 4.10). The church was demolished ca. 1916 to make way for the current Pleasant View Lutheran Church building.[98]

While examples of ancillary, commercial, and religious gravel wall buildings are available for study, the Mossy Creek Academy's demolition at an unknown date means that the only identified example of an educational gravel wall building is unable to be studied. The building was built in 1867 to replace the former school building, which was destroyed during the Civil War. Built "out of the rubbish of the large and handsome Academy," the academy was built by William H. Peterson.[99]

Plan type is used as the primary tool for analysis in this thesis, due to an existing set of plan types found in the county.[100] Additionally, regional studies, such as those by Upton and Glassie, use interior plan as a primary tool for analysis.[101] Because the forty-one residential gravel wall buildings constitute the overwhelming majority of gravel wall buildings in the county, residential buildings are divided by plan type. These plan types are based on original plan, where the determination could be made. The original plan was

[97] For the scaled floor plan, refer to the appendices.
[98] "Pleasant View Evangelical Lutheran Church, "A Century of Faith," (Self-published, 1979), 14.
[99] J.M. McCue, "The Concrete Building," *Staunton Spectator* (Staunton, Va.), Sept. 12, 1882.
[100] Studies by McCleary and Chappell outlined the plan types found in the county, namely "Study Unit" and "Cultural Change in the Shenandoah Valley."
[101] Dell Upton, "Early Vernacular Architecture in Southeastern Virginia." (Dissertation, Brown University, 1980). Glassie, *Pattern in the Material Folk Culture of the Eastern United States*.

easy to discern at some houses, such as the Rissmeyer-Murray House and the Broyles House, where later ell additions were constructed of different material. Other houses, however, were more difficult to discern. For simplicity, any gravel wall portion of a house was treated as original. The plan types identified fall almost entirely within prevalent plan types in Augusta County, identified by McCleary, Chappell, and other architectural historians. These plans are: I-House, Double-Pile with center hall, H-Plan, and Side hall addition. The I-House was the most prevalent house plan identified in gravel wall houses by a large margin. However, it must be noted that of the forty-one gravel wall houses identified in the county, definitive plan types were determined for only eighteen houses. Only houses that had been surveyed on the interior either as a part of this survey or as part of a prior survey were categorized.

Plan Type: I-House

The I-House form is identifiable as a two-story, single-pile house with a center-passage plan, whose primary entrance is on the long side of the house. Found extensively throughout the Shenandoah Valley, the I-House has received substantial scholarship. Only three true I-House plans are found in gravel wall houses in Augusta County. These are the Rissmeyer-Murray House, the Broyles House, and the Cox House.[102] All three have rear ells added later and built of materials other than gravel wall. Each house has at least one stud wall, usually adjacent to the staircase. This was likely included to ease the process of stair construction. In the Cox House (Figure 4.23), both walls in the stair hall

[102] AU2, AU4, and AU8, respectively

are stud walls. The Rissmeyer-Murray House, however, has only one stud wall, which is adjacent to the staircase. Removed from that trend is the Broyles House, which has one stud wall on the stair hall, but that is not adjacent to the main staircase.

Figure 4.23: The Cox House, which is an example of an I-house. Photo: author, 2017.

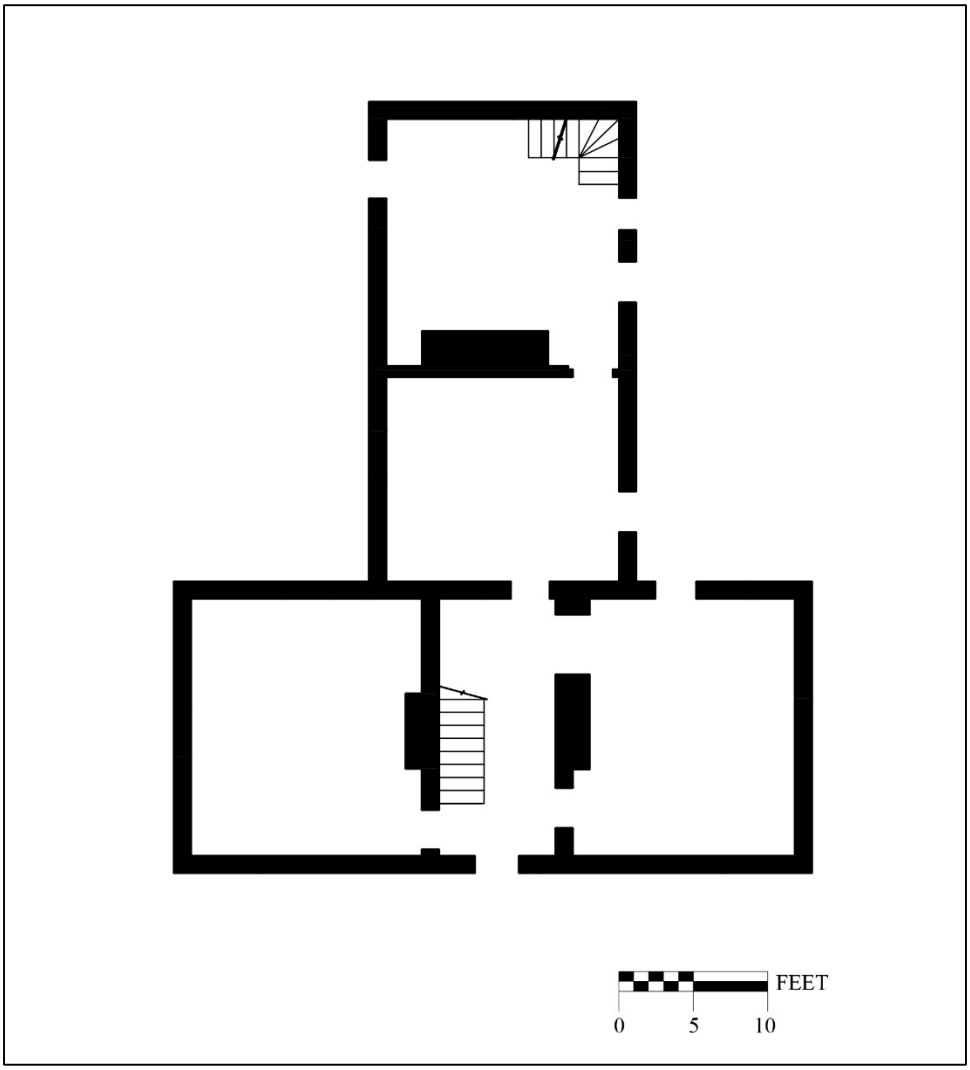

Figure 4.24: The Sensabaugh House, first floor plan. Author, 2017.

Subtype: I-House with integral ell

While pure I-House examples exist, there are a number of houses that fall within subtypes of the I-House plan. These subtypes are I-House with an integral ell and I-House addition. The Sensabaugh House, Hamilton House, Peyton House, Maple Shade, and William Glenn House all are I-Houses with integral ells.[103] These houses range in

[103] AU1, AU4, AU11, AU20, and AU27, respectively.

date from 1865 to 1892, almost the entire range of gravel wall's popularity. All five houses follow the I-house plan (two-story, single-pile, with center-passage), but appear to have been built with an integral ell. This ell was usually two rooms, with a chimney on the dividing wall between the rooms. Typically, one room was used as the kitchen, the other as a dining room.[104] While these six all fall within this subtype, there is variation among buildings. The ell on the rear of the Peyton House was one-and-a-half stories in height and included a "two-story service area" attached onto the rear.[105] Ell location also varied among houses. The ell on the Sensabaugh House was located centrally, the Hamilton House's on the right, Maple Shade's on the left, and the William Glenn House's laterally along the rear (Figure 4.25). The unusual ell orientation at the William Glenn House was noted by McCleary during her 1981 survey of the house: "The house is almost square in shape, resembling the double-pile, central passage houses that gained popularity after the Civil War. Yet this is really a single-pile I house with the popular 1ocal two-room ell arranged running along the length of the l-house, instead of projecting off the back. Two side porches extend the 'ell' to create one large, almost square block, covered with a hipped roof."[106] Despite this variation, the ell on the William Glenn House still followed the prevalent two-room plan; one room used as a kitchen, the other as a dining room. Changing spatial relationships in the twentieth century are represented in the Sensabaugh House, where the uses of each of the rooms in the integral ell were

[104] McCleary noted that kitchens were incorporated into the main house after the Civil War, often located in back rooms or ells.
[105] Ann McCleary, "W.H. Peyton House," Virginia Historic Landmarks Commission survey, file no. 07-829, January 1981.
[106] Ann McCleary, "William Glenn House," Virginia Historic Landmarks Commission survey, file no. 07-851, October 1981.

switched during the second half of the twentieth century. The current owner recalls the kitchen moving from the rear room to the room closest to the main house. The rear room was turned into a living room. While kitchens were often placed on the periphery of residential spaces, the deliberate move closer to the house reflects changing attitudes toward the role of the kitchen in the household.

Figure 4.25: A 1981 view of the William Glenn House, showing the rear lateral ell. Photo: McCleary, 1981.

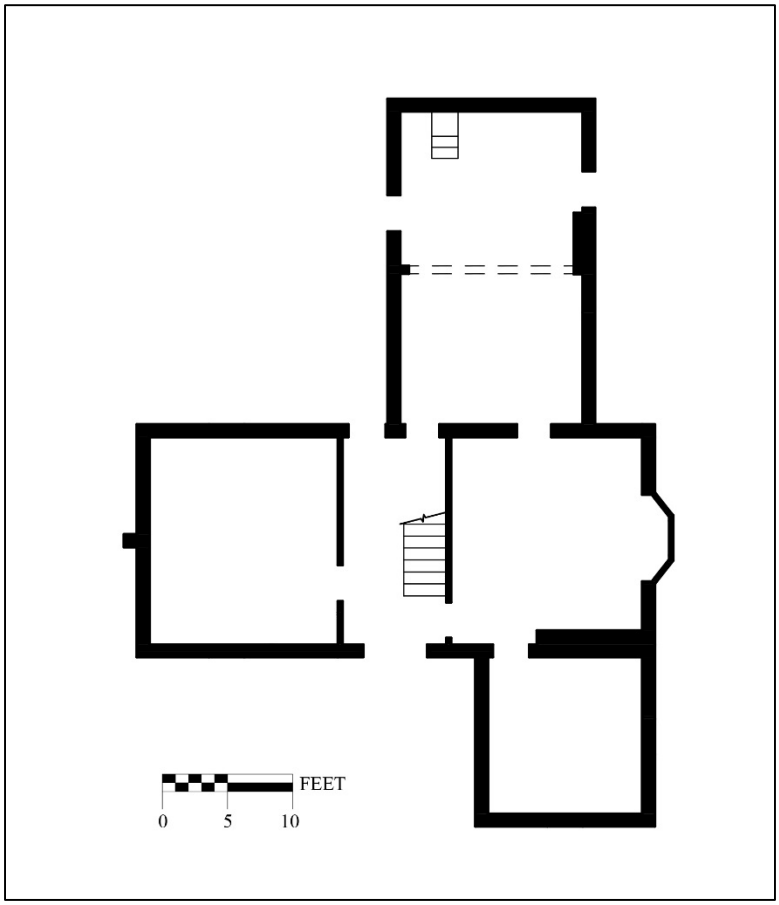

Figure 4.26: Grace Church Parsonage, first floor plan. Author, 2017.

Subtype: I-House variant

The Eavers House and the Grace Church Parsonage fall under the I-house subtype "I-house Variant."[107] Each are variations on the I-house plan. The Eavers House was described by McCleary as "a cross between the well-established I house and double-pile Georgian house traditions." Indeed, the interior plan of the Eavers House is unlike any others in this study. The left two-thirds of the house follows a double-pile plan, with a large front room and shallow rear room. The right one-thirds follows a single-pile plan

[107] AU3 and AU17, respectively.

with an integral, two-room, rear ell. The ell, in this case, masked much of the effects of the asymmetrical plan, giving the house the feel of a double-pile plan. While the Eavers House is a combination of house plans masked as an I-house, Grace Church Parsonage is more overt about its irregularities in plan (Figure 4.26). The core of the house is a single-pile, central passage I-house. A typical two-room ell sits to the rear and a single room is added onto the front, right-hand room. This creates a highly asymmetrical plan. Asymmetrical house plans became more common in Augusta County around the turn of the twentieth century and Grace Church Parsonage appears to be an early such plan. Common between both the Eavers House and Grace Church Parsonage, apart from close proximity to one another, is the presence of a one-room appendage. Both houses have a one-room projection, though the location is different for both buildings. The Eavers House's projection is located off of the front, right-hand room, while Grace Church Parsonage has an appendage off of the rear ell.

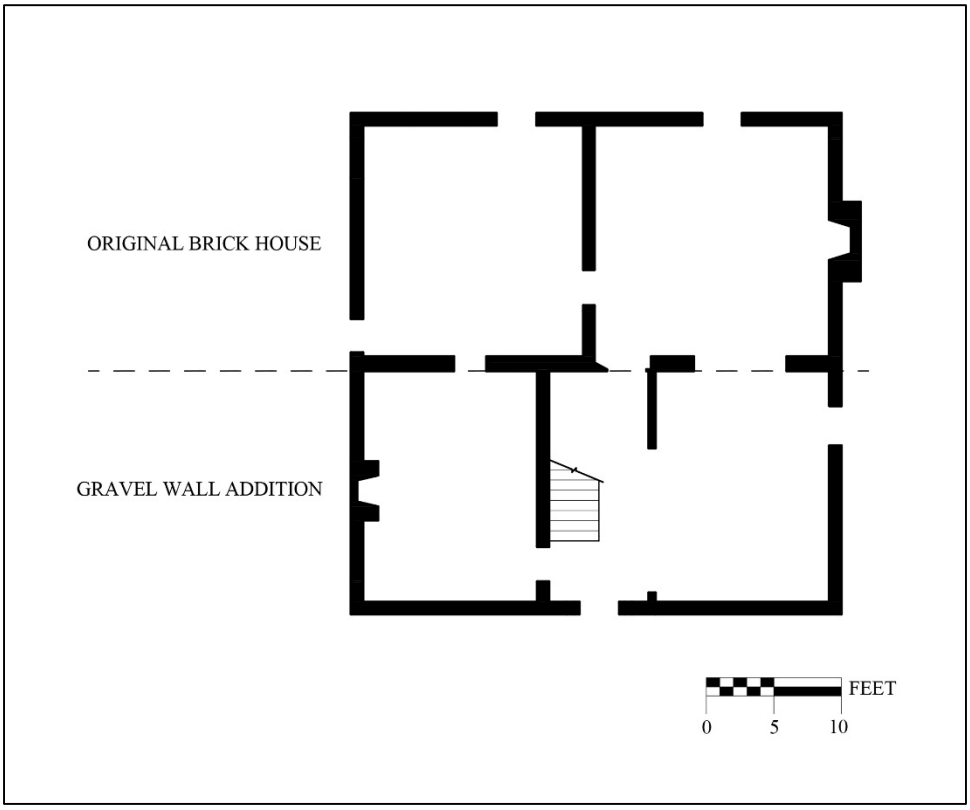

Figure 4.27: The Wilkinson House, first floor plan. Author, 2017.

Subtype: I-House addition

Gravel wall houses were also built as a reorientation of prominence to existing houses. The Tourje House was built ca. 1873 onto the front of an already-existing log house. However, rather than adding laterally, the addition was perpendicular to the original house. In addition, the new façade faced the Keezletown Road, adding to its prominence. The reoriented the primary façade of the house from the log building, whose façade did not face the road, to the new gravel wall I-house addition. Thus, the original house was relegated to use, or at least the appearance of use, as an ell. A similar reorientation occurred at the George Ramsey House, where a gravel wall I-House was

added onto the front of an earlier log house. Both log houses were accessed from the front I-House through the interior stair hall. This relationship is identical to the relationship in I-Houses with integral ells constructed concurrently, such as the Sensabaugh House and the Hamilton House. Unusual among gravel wall houses in Augusta County, but within this subtype, is the addition onto the front of a house. The Wilkinson House is the only example identified (Figure 4.27). The house started as a two-story brick house that followed a hall-and-parlor, two-room plan. At some point, a two-story gravel wall addition was placed on the front of the house. The addition followed the I-house form, and when combined with the existing house, a pseudo-Georgian plan was created. By doing this, the back two rooms were likely converted into uses typical of an ell, namely a kitchen and a dining room. If the original house is thought of as a "lateral ell," this arrangement of space is similar to that of the William Glenn House.[108] The orientation of the ell did not affect the usage of interior space.

I-House Plans:

I-House	AU2 (Rissmeyer-Murray House), AU5 (Broyles House), AU8 (Cox House)
Subtype: I-House with Integral ell	AU1 (Sensabaugh House), AU4 (Hamilton House, AU11 (Peyton House), AU20 (Maple Shade), AU27 (William Glenn House)
Subtype: I-House Variant	AU3 (Eavers House), AU17 (Grace Church Parsonage)
Subtype: I-House addition	AU12 (Tourje House), AU26 (Wilkinson House), AU29 (Ramsey House)

[108] AU27.

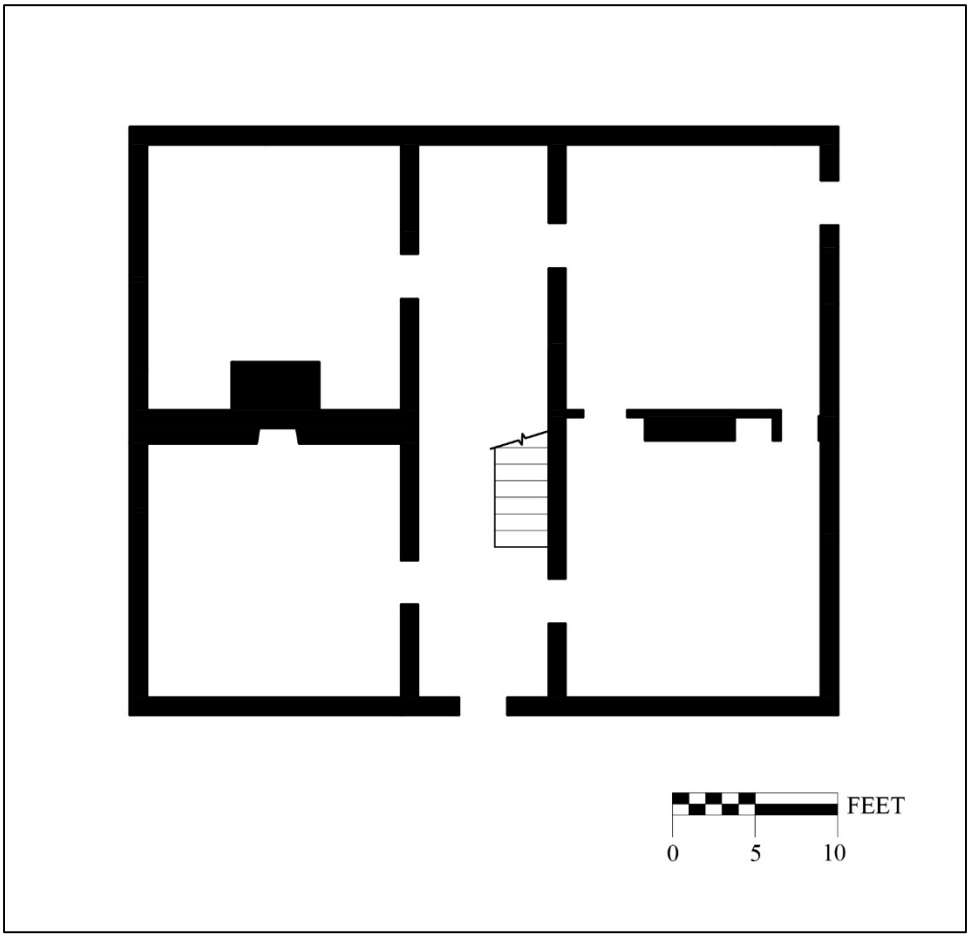

Figure 4.28: The Gasque House, first floor plan. Author, 2017.

Plan Type: Double-Pile

The double-pile, center passage plan is found at the Switzer House, the Gasque House, and the Hugh Baxter House. The plan became the symbol of status after the Civil War. Whereas earlier double-pile plans had been asymmetrical, post-Civil War double-pile plans placed a high value on symmetry. This shift has led Chappell and McCleary to refer to the post-Civil War double-pile, center passage plans as “Georgian” plans, due to their closer adherence to earlier Georgian plans.

The Georgian-plan's high value placed on symmetry is evident at the Gasque House, which exhibits symmetry not only in plan, but also on each exterior elevation. The house's center hall terminates at a bathroom, likely not original to the house. Two lateral walls create four rooms of roughly equal size on the interior. Chimneys are located on these lateral walls and serve both rooms. A doorway connects the two right-hand side rooms (the dining room and the kitchen), but irregularities in the floorboards suggests that the doorway was a later addition, meaning that there was originally no communication between the two rooms. If we are to believe that the use of the rooms has remained consistent since the construction of the house, the house's use of space is similar to that of earlier houses surveyed by McCleary. In one early nineteenth century house, McCleary noted that there was no communication between the dining room and the kitchen, except for a small window, which was used to pass food between the two rooms (Figure 4.29).[109] A similar arrangement appears at the Gasque House, where a cupboard, located next to the fireplace, opens between the kitchen and the dining room. The separation of preparation and consumption spaces appears to have remained after the Civil War.

[109] McCleary, "Study Unit," 73.

Figure 4.29: The dining room at the Gasque House. Notice the cupboard to the extreme right and the replaced/irregular floorboards at bottom center. Photo: author, 2017.

The Switzer House was briefly surveyed by Chappell in 1977. In his survey, Chappell included a rough sketch of the interior plan, which he noted as following a double-pile, center-passage plan. The Switzer House dates to 1868 (Figure 4.8), just four years before the Gasque House. While the on paper, the two houses share a similar date and a similar plan, there are fundamental differences. The Switzer House follows a double-pile, central-passage plan, but its arrangement is not as rigid as at the Gasque House. Chappell noted that the plan at the Switzer House was different for each of its three floors. His sketched plan for the first floor noted the left third of the house divided into two equally-sized rooms, while the right third was one, expansive room. This was in contrast to the basement level, where the both thirds followed a similar arrangement, with

a larger room toward the front of the house (a dining room and a kitchen) and a smaller room toward the rear (a fruit cellar and a pantry). Additionally, the Switzer House is decidedly rectangular in shape and from the outside looks more like an I-house. In contrast, the Gasque House, which follows a true Georgian plan, is almost square in shape. Finally, two chimneys are placed on each of the gable ends, rather than on lateral walls, as at the Gasque House.

The McCue House, which serves as the first tangible representation of Orson Fowler's influence in Augusta County, though not a gravel wall house, is worthy of mention. The Todd House follows the Georgian plan, though its proportions are not as pure as at the Gasque House. While at the Gasque House, all four rooms were roughly equal in size, the front rooms at the McCue House are smaller than the rear rooms. Additionally, McCue opted to remove kitchen functions from the main house with the construction of a gravel wall ell in 1860. Nevertheless, the McCue House is similar in massing and symmetry to the Gasque House, and as such represents an early acceptance of the Georgian plan in Augusta County.

Figure 4.30: The Hugh Baxter House (AU25). Photo: Chappell, 1976.

Also surveyed by Chappell, the Hugh Baxter House follows a double-pile, center-passage plan. However, while the house exhibits elements of the Georgian plan, there are notable differences. The most notable difference is the placement of chimneys. At the Hugh Baxter House, exterior chimneys are located on the front and the rear of the house, rather than on the ends or on interior lateral walls. This creates an unusual façade appearance, with three bays located close together in-between the two chimneys (Figure 4.30). Two doors are located on the side elevation, one in either room. According to a plan sketched by Chappell, all four rooms appear to be of equal size, consistent with the Georgian plan. Furthermore, the house is almost square in shape, like the Gasque House.

Double-pile plans: AU6 (Switzer House), AU7 (Gasque House), AU23 (McCue House)[110], AU25 (Hugh Baxter House)

[110] The McCue House is not a gravel wall house.

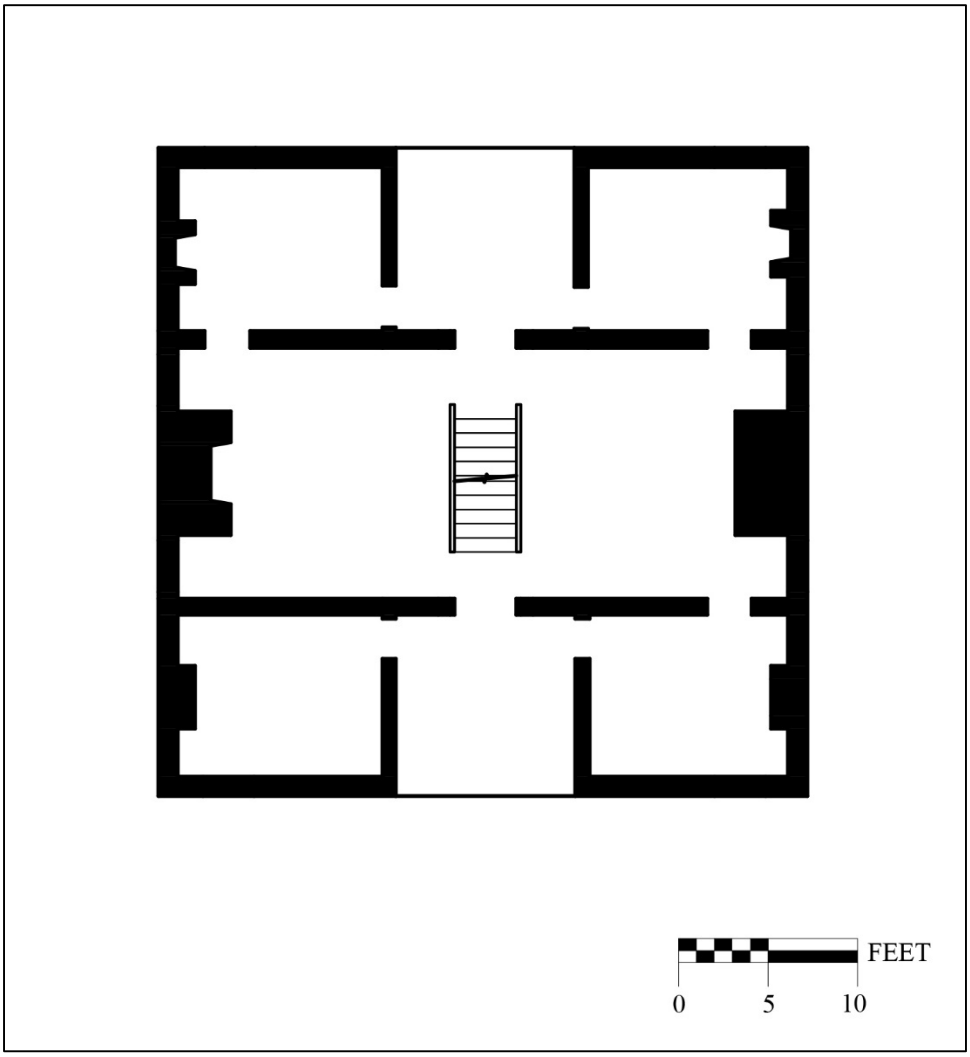

Figure 4.31: The Irvine House, first floor plan. Author, 2017.

Plan Type: H-Plan

The Irvine House is the only identified gravel wall example of the H-Plan in Augusta County. The H-Plan is identifiable as an I-house with an I-house form added onto the front and rear, though the center hall on each addition was open and served as a covered entrance. This creates a pseudo, triple-pile plan in the shape of an "H." McCleary, in her 1978 survey of the house, suggested that the central, I-house portion

was original and the wings a later addition. This hypothesis was not tested as a part of this survey. The use of the rooms was not determined by McCleary, though the basement was used as a root cellar. Each room had a devoted fireplace (with the exception of the center stair hall), resulting in six chimneys. Though the house was historically located in close proximity to the old Parkersburg Turnpike, it remains in a remote portion of the county, not near to any other gravel wall buildings in the county. Not only does the location mark this house as an anomaly, but the plan does as well. While the Irvine House is an anomaly, the house is similar to another gravel wall house in one respect. Both the Irvine House and the Switzer House are banked houses, built into the side of a hill. In both cases, the primary entrance was on the two-story side. The rear of the house, three-stories in height, faces the barn and fields. This suggests a clear effort to separate the formal and informal spaces in each house. The front faced away from work areas, while the rear was used as an informal entrance. However, the lanes to both houses lead past the agricultural curtilage, which suggests that the division was not altogether rigid.

H-Plan: AU21 (Irvine House)

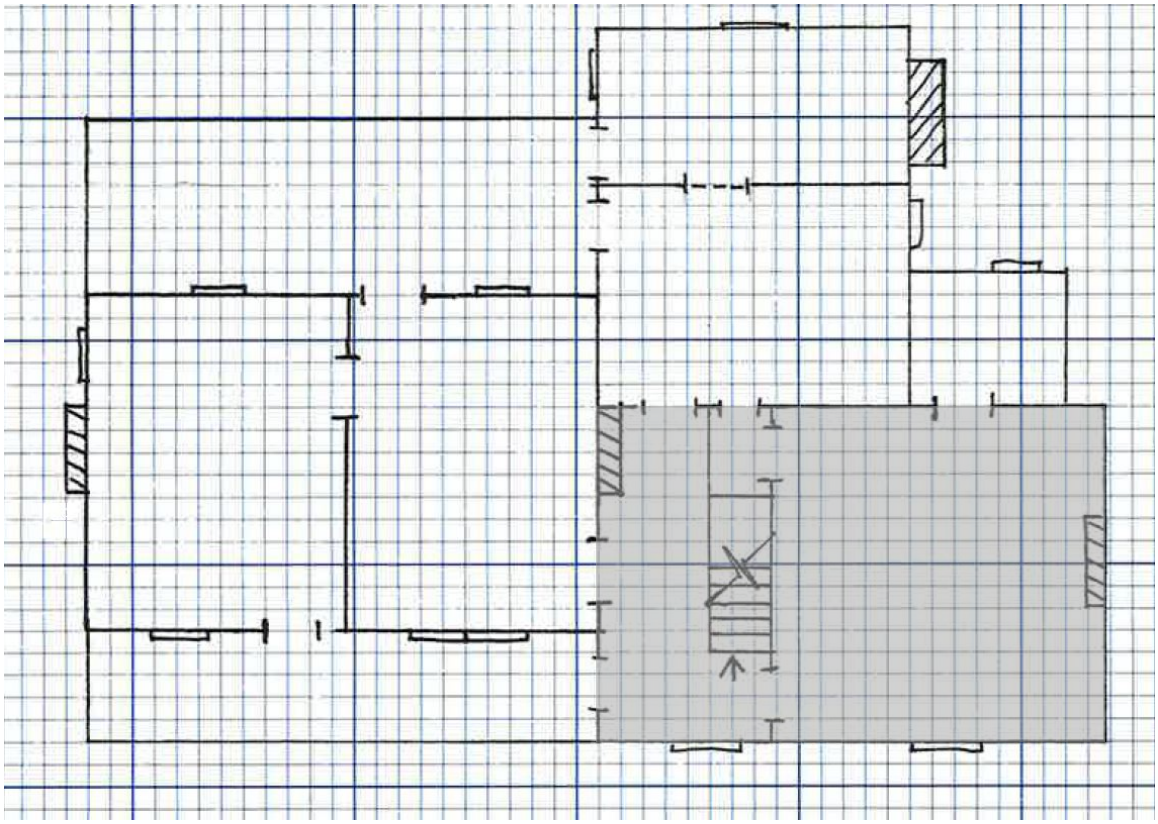

Figure 4.32: The McClung House plan, as drawn by McCleary in 1979. The gravel wall portion is shaded. Plan not to scale.

Plan Type: Side-Hall Addition

The McClung House was the only gravel wall house to follow the side-hall plan as an addition. Originally a ca. 1840-1860 two-story, brick house, an 1882 gravel wall addition by William H. Peterson created an irregular plan (Figure 4.32). The addition was made laterally onto the original house, somewhat unusual among gravel wall additions in the county. The plan is a straightforward side-hall plan, with a narrow stair hall and a larger room adjacent. Unusual with this plan was the location of the entrance. Whereas on many side-hall plans, the entrance would be located on the front of the house and would lead into the stair hall, the entrance into the gravel wall addition at the McClung House

was located on the side of the stair hall, accessible via the front porch of the original house. The entrance was adorned in a manner consistent with other gravel wall houses of the period: a four-panel door, surrounded by a transom and sidelights. Also of note is the one-room, gravel wall projection off the side of the addition. Similar one-room projections are found at the Eavers House, Hamilton House, and Grace Church Parsonage.[111]

Side Hall Addition: AU22 (McClung House)

Figure 4.33: The Kindig House. Notice the off-center main entrance. Photo: Chappell, 1981.

Unidentified

A number of buildings were not included in the categorization. As stated above, only buildings that had an interior survey, either as part of this study or as part of a

[111] AU3, AU4, and AU17, respectively.

previous survey, were categorized. While not investigated on the interior and as such not included in the above categorization, some assumptions can be made as to the interior plan.

Houses such as the Sheets House, May House, Harnsberger House (Figure 4.34), and Hogshead House all appear to follow a single-pile, central passage plan.[112] The Sheets House, however, was built as a raised, one-story house, while the others appear to follow the I-house form. The Palmer House, Garrison House, Brand House, Robson House, Beard House, Baylor House, Bell House, and Craushorn House all appear to follow the I-house with integral ell plan type.[113] These buildings date from the 1870s onward and show that the integral ell model was prevalent in gravel wall construction from relatively early in its popularity. The only discernable double-pile plan from these houses is the McGuffin House.[114] Two asymmetrical or irregular plans are likely found in the Hunter House and the Gilkeson House.[115] The Hunter House appears to follow a similar plan to that of Grace Church Parsonage, with a room onto the front of the house. However, the lack of a rear ell distinguishes the two. The Gilkeson House, on the other hand, has a rambling, possibly three-room, rear ell with a one-room projection on one side. Gravel wall's use for additions was found in the Kindig House, Garrison Tenant House, and Shields House.[116] Both were built as additions onto earlier log buildings. Asymmetrical fenestration on the Kindig House suggests that the interior plan could have

[112] AU13, AU14, AU37, and AU38, respectively.
[113] AU15, AU16, AU28, AU30, AU31, AU32, AU39, and AU48, respectively.
[114] AU24
[115] AU18 and AU46, respectively.
[116] AU43, AU47, and AU49, respectively.

followed a hall and parlor plan (Figure 4.33). The only example of a gravel wall ell addition onto an earlier building is with the Shields House. A 1981 survey by McCleary suggests that the ell followed the prevalent two-room plan.

Figure 4.34: The Gilkeson House, no longer extant. Photo: Vintage Aerial, 1976.

Unidentified: AU13 (Sheets House), AU14 (May House), AU15 (Palmer House), AU16 (Garrison House), AU18 (Hunter House), AU24 (McGuffin House), AU28 (Brand House), AU30 (Robson House), AU31 (Reverend Beard House), AU32 (Baylor House), AU36 (Crawford House), AU37 (Harnsberger House), AU38 (Hogshead House), AU39 (Bell House), AU40 (Watson House), AU41 (Great Oaks), AU43 (Elias Kindig House), AU44 (Lightner House), AU45 (Maupin House), AU46 (Gilkeson House), AU47 (Garrison Tenant House), AU48 (Craushorn House), AU49 (Shields House)

Chapter 5 : The Legacy of Concrete in Augusta County

The gravel wall method, introduced just before the Civil War, enjoyed a period of popularity during the 1870s and 1880s, before the material largely fell out of use by 1900. Two late examples are the Lightner House and the Hunter House, which respectively date to 1898 and ca. 1900. Located in close proximity to one another, these two houses represent the waning influence of gravel wall construction in Augusta County's architecture. Concrete block replaced the gravel wall material as Augusta County entered the new century. The gravel wall material was replaced by concrete block as Augusta County entered the new century. This shift toward concrete block is reflected in the building evolution of the Rissmeyer-Murray House.

Figure 5.1: The rear ell of the Rissmeyer-Murray House. Photo: author, 2017.

Located in a cluster of gravel wall buildings centered around the community of Roman, Virginia, the Rissmeyer-Murray House was built as a gravel wall I-house. Just after the turn of the century, a textured concrete block ell was added onto the rear of the house (Figure 5.1 and Figure 5.2). According to the current owners of the Rissmeyer-Murray House, a man who was a boy during the construction of the ell recalled observing the builder's process of making and laying concrete block. The builder arrived at the site with a machine to make the blocks. The man recalls that the builder mixed the ingredients for the blocks, using sand which was procured from the nearby Middle River. This process of sand extraction from nearby sources, when coupled with the mixing of material onsite, resonates to gravel wall construction. In gravel wall construction, lime was sometimes burned on-site to create the slaked lime necessary for use as a binder, sand was extracted from nearby rivers and streams, and stone was readily available from nearby sources. Concrete block, for comparison, also used sand, gravel, and cement. While sand and gravel were still readily available resources in Augusta County, hydraulic cement was a new luxury for builders. The discovery and commercialization of cement created an industry that fueled this shift from gravel wall to concrete block.

Figure 5.2: Concrete block detail, Rissmeyer-Murray House rear ell. Photo: author, 2017.

By the turn of the century, hydraulic cement had been available for use in Augusta County for at least four decades. Newspaper advertisements noted that "Rosendale" cement was being sold in Staunton as early as 1860 and "hydraulic" cement as early as 1861.[117] Indeed, throughout the 1860s, numerous advertisements for cements were placed in Staunton newspapers. An 1867 advertisement noted that cement "manufactured at Balcony Falls, James River" was for sale.[118] The same year, a property advertisement for a factory on the Rivanna River south of Charlottesville noted a "dam of solid masonry, cemented with hydraulic cement" on the property.[119] By 1871, "Round

[117] "Cement," *Staunton Spectator* (Staunton, Va.), Oct. 9, 1860. and "New Advertisements," *Staunton Spectator* (Staunton, Va.), Feb. 5, 1861.
[118] "Groceries, &c," *Staunton Spectator* (Staunton, Va.), Mar. 19, 1867.
[119] "Lands for Sale," *Staunton Spectator* (Staunton, Va.), Apr. 16, 1867. Charlottesville is located in Albemarle County, the county directly to the east of Augusta County.

Top" cement was advertised in Staunton.[120] The stucco render on the ca. 1889 Palmer House used a hydraulic cement instead of lime, as did other stucco mixes. In 1893, a notice for contractors in the *Staunton Spectator and Vindicator* for the construction of the market house in Staunton requested that "Portland or other equally good cement to be used for concrete" foundation.[121] As early as the 1890s, Portland and other hydraulic cements were used in construction in Augusta County.

In 1871, a newspaper article noted the discovery of hydraulic cement on the property of Jacob Keller near Trinity Mills in Augusta County. The article noted that Keller "used it in cementing three or four cisterns, with success" and that the discovery would "prove a profit to Mr. Keller."[122] This discovery of hydraulic cement in the county appears to have spread, with a newspaper advertisement from the following year noting that "James River, Rosendale and Augusta County Cement" were for sale.[123] A further discovery of cement rock occurred on the property of J. Lewis Peyton near Staunton in 1880.[124] While discoveries of hydraulic cements abounded, little evidence exists of any resulting manufacture or commercialization. That changed in 1899, when a newspaper article noted the impending plans for the development of a "cement works and marble quarry" at "Marbledale, near Craigsville." The operation was to be "backed by New York capital" and "a force of several hundred hands."[125] By 1900, the "largest cement plant in

[120] "Shinn & Co.," *Staunton Spectator* (Staunton, Va.), Jan. 17, 1871.
[121] "New Advertisements," *Staunton Spectator and Vindicator* (Staunton, Va.), Apr. 12, 1893.
[122] "Hydraulic Cement," *Valley Virginian* (Staunton, Va.), Oct. 12, 1871.
[123] "New Advertisements, *Staunton Spectator* (Staunton, Va.), Apr. 2, 1872.
[124] "Cement Rock," *Staunton Spectator* (Staunton, Va.), November 11, 1880.
[125] "A Shooting Scrape in the County," *Staunton Spectator and Vindicator* (Staunton, Va.), July 6, 1899.

the state" was nearly completed. A Staunton Spectator and Vindicator article claimed that the plant was the "only one South of Masons & Dixon's line and East of the Mississippi that [could] manufacture the celebrated Portland cement."[126] By 1910, there were only two plants in the state of Virginia that produced Portland cement. The Virginia Cement Company, as the operation was then referred, was one.[127]

The development of cement in Augusta County led to the decline in popularity of gravel wall construction. Though hydraulic cement was both discovered and sold in Augusta County, its use in residential construction was not widespread until the development of the Portland cement plant near Craigsville. This shift in emphasis is perfectly mirrored in W.N. Fishburne's construction of his "cement-concrete" building in Waynesboro, Virginia in 1900. The house was constructed of "solid cement," using a method very similar to both gravel wall construction and more modern cast concrete construction. A 1901 newspaper article described the process: "the building was constructed by pouring cement into moulds [sic] that are the shape of the building and as the cement hardened the moulds [sic] were successively raised, fresh cement being poured in each time."[128]

[126] "A Large Industry," *Staunton Spectator and Vindicator* (Staunton, Va.), February 16, 1900.
[127] Virginia Geological Survey, *Biennial Report on the Mineral Production of Virginia During the Calendar Years 1909 and 1910* (Charlottesville, VA: University of Virginia, 1911), 64.
[128] "Waynesboro," *Staunton Spectator and Vindicator* (Staunton, Va.), January 11, 1901.

Figure 5.3: A two-story concrete block house in Mt. Solon, using blocks likely created with Palmer's block machine. Photo: author, 2017.

The rise in popularity of concrete block also contributed to the decline of the gravel wall plan in Augusta County. Harmon S. Palmer's patent for a concrete block machine in 1900 spurred national interest in concrete block, interest that spread quickly.[129] By 1902, Palmer had created the Hollow Block Building Company to manufacture his concrete block machines. In August of the same year, it was announced that William Larner purchased the right to use Palmer's machine to manufacture concrete blocks in Augusta County and Staunton. The operation was based out of Staunton and

[129] Pamela H Simpson, *Cheap, Quick, and Easy: Imitative Architectural Materials, 1870-1930* (Knoxville: University of Tennessee Press, 1999), 11.

had a daily output of 150 blocks. Shadwell sand and cement "from the big mills at Craigsville" were used as ingredients for the blocks.[130]

Gravel wall's decline was precipitated by a perfect storm of material developments in Augusta County. The opening of the Virginia Portland Cement Company plant near Craigsville in 1900 created a massive supply of hydraulic cement for builders in the county. Around the same time, Harold S. Palmer patented plans for a machine to make concrete blocks. Augusta County did not lag behind the rest of the nation in their acceptance of concrete block. Just months after Palmer officially created the Hollow Building Block Company, concrete block production had already begun in Staunton.[131] Increased accessibility of materials needed for production meant that older methods were discarded in favor of newer, more efficient materials, such as concrete block. While concrete blocks were manufactured in Staunton, the oral account of the construction of the concrete block rear ell at the Rissmeyer-Murray House suggests that portable machines were in use in rural Augusta County. As concrete block became more popular, block machines became cheaper. Perhaps the low prices of block machines allowed for builders to construct concrete block buildings independent of the influence of William Larner. Larner's efforts to market the Palmer Concrete Building Block in the area secured a contract for a two-story house in Harrisonburg in 1902,[132] a three-story building in downtown Staunton in 1903,[133] a house in Staunton in 1905,[134] a barracks for

[130] "Something New in Staunton," *Staunton Spectator and Vindicator* (Staunton, Va.), August 15, 1902.
[131] Ibid.
[132] "Local Briefs," *Staunton Spectator and Vindicator* (Staunton, Va.), Aug. 29, 1902.
[133] "Local Briefs," *Staunton Spectator and Vindicator* (Staunton, Va.), Feb. 26, 1904.
[134] "Personals," *Staunton Spectator and Vindicator* (Staunton, Va.), Feb. 3, 1905.

the Staunton Military Academy in 1905 (using "5,000 barrels of cement and 4,000 tons of sand" to make the blocks),[135] a two-story store in Stuarts Draft in 1906,[136] among others.

As Larner's contracts grew both in number and in stature, others became aware of the value of concrete block construction as an industry. Larner controlled the right to manufacture Palmer Hollow Concrete Building Blocks in Staunton, Augusta County, Harrisonburg, and Lynchburg after 1902. By 1903, Larner, by that time in business with John Smith, purchased land in Alabama and secured the rights to manufacture Palmer concrete blocks in Birmingham. At the same time, Larner and Smith sold the rights to the eastern half of Augusta County to M.R. Ellis.[137] While their business grew, Larner and Smith were concerned with competition and patent infringement. In 1904, Smith was called to Richmond by Harmon Palmer, where he was notified of rival machines in use in Staunton and Norfolk.[138] Perhaps one of these rival machines was used in the construction of the Rissmeyer-Murray House's rear ell. The production of blocks onsite, instead of at Larner and Smith's Staunton manufacturing operation, would suggest that a rival machine was used.

[135] "New $5,000 Barracks," *Staunton Spectator and Vindicator* (Staunton, Va.), Sept. 8, 1905.
[136] "A Prosperous Town," *Staunton Spectator and Vindicator* (Staunton, Va.), Jan. 19, 1906.
[137] "Local Briefs," *Staunton Spectator and Vindicator* (Staunton, Va.), Feb. 13, 1903.
[138] "Personals," *Staunton Spectator and Vindicator* (Staunton, Va.), Dec. 16, 1904.

Chapter 6 : Conclusion

Orson Fowler's two editions of *A Home for All* are integral inclusions in the rich collection of architectural pattern books that were popular in America during the nineteenth century. While Fowler's prescribed octagon form remained constant between the two editions, he switched his preference for building method from board wall to gravel wall. Builders in Augusta County, Virginia, accepted the gravel wall material as an acceptable alternative to brick, stone, and wood construction during the latter half of the nineteenth century. While builders' embraced Fowler's material, they rejected his octagonal form. This inclination toward Fowler's gravel wall material led to the construction of at least eighty-eight gravel wall buildings in Augusta County and the surrounding area during this period.

This thesis identified, analyzed, and characterized gravel wall buildings in Augusta County. Initial research uncovered potential sites, which were verified and documented through fieldwork. The identification process revealed two non-gravel wall buildings influenced by the writings of Orson Fowler, which were included in the study. Fieldwork captured quantitative and qualitative data, crucial as an analytical tool through comparison between sites. Certain buildings were afforded more detailed study, due to factors such as plan, location, date, or construction method. Mortar analysis, in the form of acid digestion, provided further hard data in the form of material composition. The results of the mortar analysis, which provided ratios of ingredients for the mortar, proved

useful as a tool for comparison both between extant buildings and between Fowler's prescribed ratios and extant buildings.

Gravel wall remains largely understudied within the fields of construction history and architectural history. Scholars have devoted more robust study to more common materials, such as brick and wood. While Orson Fowler remains a well-understood figure within the field of architectural history, the diaspora of buildings influenced by his writings needs more attention. Architectural historians who studied Augusta County's architecture during the 1970s and 1980s, such as Ann McCleary and Ed Chappell, neared an analysis of gravel wall as a material, but never devoted the time needed for a full understanding of the material. McCleary and Chappell, however, should be forgiven, largely due to the scope of their studies. Much like this study, Chappell worked within the constraints of an academic thesis and chose to study pre-Civil War German buildings in the northern portion of the county. A few years later, McCleary added to Chappell's scholarship, expanding architectural exploration to the entire county with her comprehensive "Study Unit." While McCleary and Chappell can be forgiven, the general lack of study of gravel wall buildings throughout the country is less excusable. The understudied nature of gravel wall buildings in the Shenandoah Valley reflects an age bias. The Shenandoah Valley's architectural history received much scholarship in the 1960s, 1970s, and 1980s, but much of the study, such as Chappell's "Cultural Change in the Shenandoah Valley," favored eighteenth and early nineteenth century trends. As a result, much post-Civil War architecture received little study. Though McCleary largely

remedied this gap in study in Augusta County with "Study Unit," many counties in the Shenandoah Valley were not as fortunate.

Augusta County's early buildings were heavily influenced by ethnic groups who settled in the area. The influence of these groups is identifiable primarily by plan type. These settlers, largely Scots-Irish and German, settled the county from points northward. The remaining buildings from this period are more substantial examples, often constructed of stone and occasionally of brick. The majority of settlers built wood buildings that were sometimes replaced by larger brick buildings beginning in the nineteenth century. The early nineteenth century saw a building boom for the county, in which brick became the material of choice. This period, which lasted until the Civil War, was marked by a standardization of plan and form, as the process of acculturation forged previously distinctive ethnic identities into a unified regional identity. Following the Civil War, architecture continued to evolve, as more plans and styles became common. It is during this period of proliferation that gravel wall rose to tepid popularity within Augusta County's architecture.

The fifty gravel wall buildings identified in this study vary widely in use, plan, style, date, and location. The majority of buildings were used as residences, although commercial, ancillary, educational, and religious examples exist in lesser numbers. Many residential gravel wall buildings follow the I-house plan, but wide variation. Architectural styles ranged from the overtly Gothic Revival Peyton House to the more chaste Mount Pleasant Church. These buildings fit into the already existing architectural trends of the period. Elements of Gothic Revival, Greek Revival, and Italianate styles (among others)

are all present on these buildings, just as in other buildings in Augusta County during the second half of the nineteenth century. Additionally, while many gravel wall buildings varied from prevalent plan types, the variation was within the normal range and was not unique to gravel wall construction. Their wide variation in plan and style suggests that gravel wall was treated as any other material by Augusta County builders. Gravel wall buildings also varied in construction date, from the first in 1859 to the last around the turn of the twentieth century.

The gravel wall material spread throughout the county primarily by interpersonal relationships. J.M. McCue introduced the material to the county in 1859, but personal interaction fueled the material's spread through the county. Introduced in the northern portion of the county by McCue, the gravel wall's patterns of diffusion mirror that of the settlement of the county, in which Scots-Irish and German settlers who originated in Pennsylvania and points northward moved southward.

The gravel wall method of construction was not confined to Augusta County. Reconnaissance fieldwork and period newspaper references suggest that gravel wall buildings exist throughout the Shenandoah Valley. In particular, Rockingham County may contain a high concentration of gravel wall buildings, in part because the Peterson builders resided in the county. The wide spread of gravel wall buildings throughout the Shenandoah Valley presents opportunities for further study of the method in the region. The first steps toward a regional study would be county-wide studies such as this one. If the development in other counties mirrors that of Augusta County, a county-wide

approach would yield specific, useful results, which could serve as the basis for a regional study.

Additionally, the mortar analysis portion of this thesis could be expanded to reach new conclusions. The scope of the mortar analysis undertaken was narrow by design, intended to characterize the composition of gravel wall material. This characterization was completed for comparison both between buildings and between *A Home for All* and gravel wall buildings in the county. Sand used in gravel wall mixes likely came from streams and rivers located close to the building sites. This assertion was assumed, but not challenged or tested in this thesis. A more robust and in-depth aggregate characterization, when coupled with sand samples taken from strategic sites in rivers and streams throughout the county, could lead to a better understanding of the material procurement aspect of gravel wall construction. This characterization could use color, texture, and size to better match sand samples from waterways to sand samples from gravel wall mortar samples.

From a building preservation perspective, the chief threat to gravel wall buildings is neglect. However, the Irvine House's continued existence, despite being unoccupied for over forty years, suggests that gravel wall buildings are somewhat resistant to normal mechanisms of decay. As with any building, the biggest mechanism of decay is water. However, in the case of the Irvine House, a working roof has protected the house from certain destruction through water infiltration. While the Irvine House still stands, much of the lime has been leached out of the mortar mix, which has created a friable, majority sand and clay, mortar mix. For this reason, the two elements most crucial for the

preservation of a gravel wall building are the roof and the exterior stucco render. Both are necessary to ensure that water does not infiltrate the gravel wall material. However, incompatible stucco mixes could cause issues. Pure Portland cement mixes could lead to material failure, due to unequal expansion and contraction characteristics between the stucco and the gravel wall material. If a stucco repair needs to be made, a combination Portland and lime mix is suggested, to ensure that both materials remain compatible and working properly.

The significance of gravel wall buildings in Augusta County lies in their relatively small number and clear ties to national architectural trends. Additionally, the majority of examples in the county can be definitively attributed to the work of William Peterson and his son, which provides another layer of significance. As such, these buildings are eligible for listing on the National Register of Historic Places as part of a thematic nomination through Criterion C. Criterion C states that buildings are eligible "that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction." Gravel wall buildings utilize a unique, under-studied construction method, which elevates the significance of the Augusta County examples are eligible for listing. Listing would bring awareness to these buildings, which could spur further study and enable financial benefits for homeowners in the form of Federal and State Historic Tax Credits.

The fifty Orson Fowler-inspired buildings in Augusta County narrate a change in the county's mid-to-late-nineteenth century architectural history. Builders accepted

gravel wall as a construction material and incorporated it into their repertoire with buildings that fell within prevalent plans, forms, and styles. As such, the only distinguishing characteristic of gravel wall buildings was the construction material. As Augusta County entered the twentieth century, concrete block supplanted gravel wall as the experimental material of choice, thus spelling the end of the material in the county. However, these buildings represent a unique effort to conform with a national, albeit experimental, trend in American architecture.

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Appendices

Appendix A: Survey Forms and Individual Building Sheets

Appendix A is a set of information sheets that compiles research for each of the fifty buildings in Augusta County that can be linked to Orson Fowler's construction methods. These buildings were identified through historical research, fieldwork, and interviews with Augusta County residents.

AU1 (Sensabaugh House)

SURVEYED
08/02/2017

DHR# N/A

Status: Extant, surveyed
Historic Use: Residential
Current Use: Residential

Built: 1892
Source of date: Newspaper references (SS 5/4/1892, SS8/10/1892), construction documents

Evidence of Construction: Architectural evidence from site visit, newspaper references

Maps:
1864: Not noted
1870: Not noted
1875: Not noted
1885: Not noted

Prior Surveys: none

Stories: 2

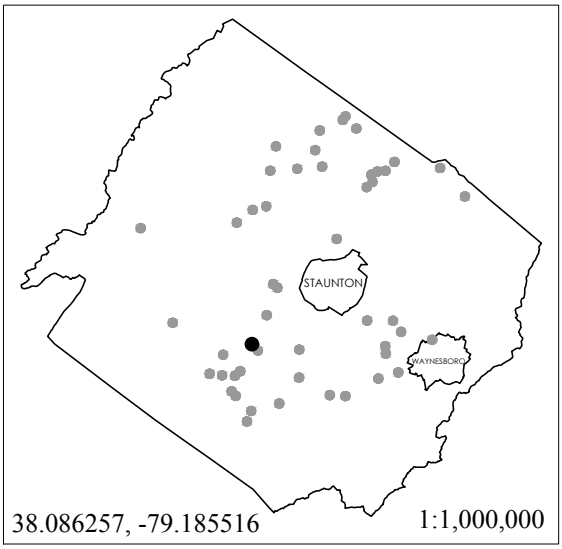
Bays: 3

Roof Shape: Gable, with front cross-gable

Nearest gravel wall building: Wilkinson House (AU26) - 0.7 miles

Photo: Author, 2017.

The Sensabaugh House is an 1892 gravel wall house located near the village of Middlebrook, Virginia. Never before surveyed, the house offers a rare insight into the process and finances behind the construction of a gravel wall house through the existence of the builder's notes. Built by "Mr. Peterson,"the house mirrors prevalent late-19th century architectural trends, such as paired interior chimneys and a cross gable above the primary entrance. Notably, the front door and stair balusters match those at the Eavers House (AU3) and the Hamilton House (AU4).



AU1 (Sensabaugh House)

SURVEYED 08/02/2017

EXTERIOR

Foundation:
Continuous, fieldstone, partially visible above grade

Exterior finish:
Stucco, scored to give the appearance of stone block.

Porch:
One-story, above grade (accessible by steps) with four square columns across the front, two pilasters at intersection with the facade. Columns are chamfered with lamb-tongue detail. Paired decorative brackets atop each column. Sawn balusters.

Windows:
Original 2-over-2 double-hung sash, replacement 1-over-1 double-hung sash

Front Door:
Decorative, four octagonal panels, original hardware, including original doorbell. Paired Italianate brackets over door, sidelights and transom surround door.

Chimneys:
3 brick, 2 in I-house portion, 1 in ell. All chimneys have corbelled detail at top. I-house chimneys match, while the ell chimney is simpler in detail.

Eaves:
Wood, plain

Roof:
Gable, with front cross-gable. Broken pediment on gable ends. Standing-seam metal.

Additions:
Mudroom, bathroom, storage room (first floor: see plan), bathroom, storage room (second floor)

Exterior wall thickness:
1'-1"

INTERIOR

Interior finish:
Plaster, wallpaper, wood graining on doors and woodwork

Interior details:
Identical baseboards in I-house portion. original doorstops, original window locks exist on first floor.

Doors:
Box locks on all doors, transoms above front bedroom and dining room doors.

Staircase:
Half-flight with landing, balusters identical to other houses in area (AU3, AU4)

Floor joist spacing (captured in basement):
Not captured

Interior wall thickness:
1'-1"

Interior wall material:
All original walls gravel wall

Additions/changes:
Dining room remodeled. Kitchen and living room heavily remodeled and use switched.

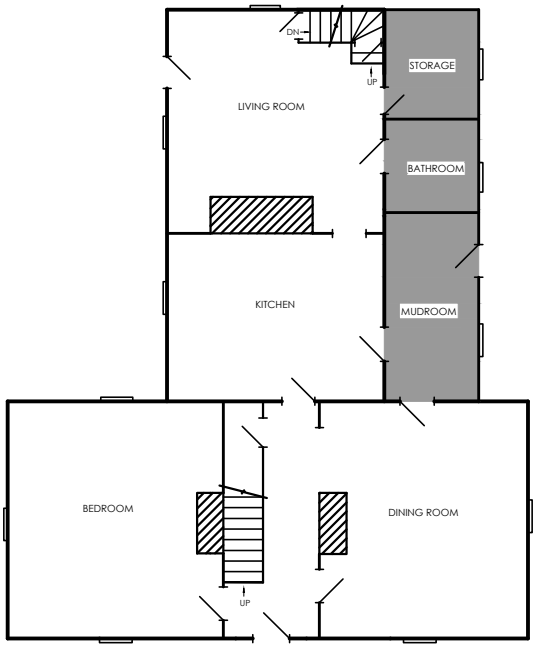
AU1 (Sensabaugh House)

SURVEYED
08/02/2017

FIRST FLOOR PLAN

(NOT TO SCALE)

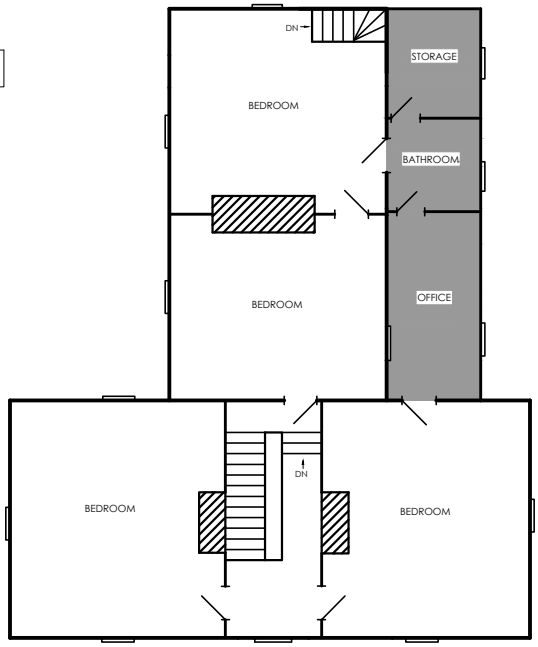
SHADED REGION
DENOTES ADDITIONS



SECOND FLOOR PLAN

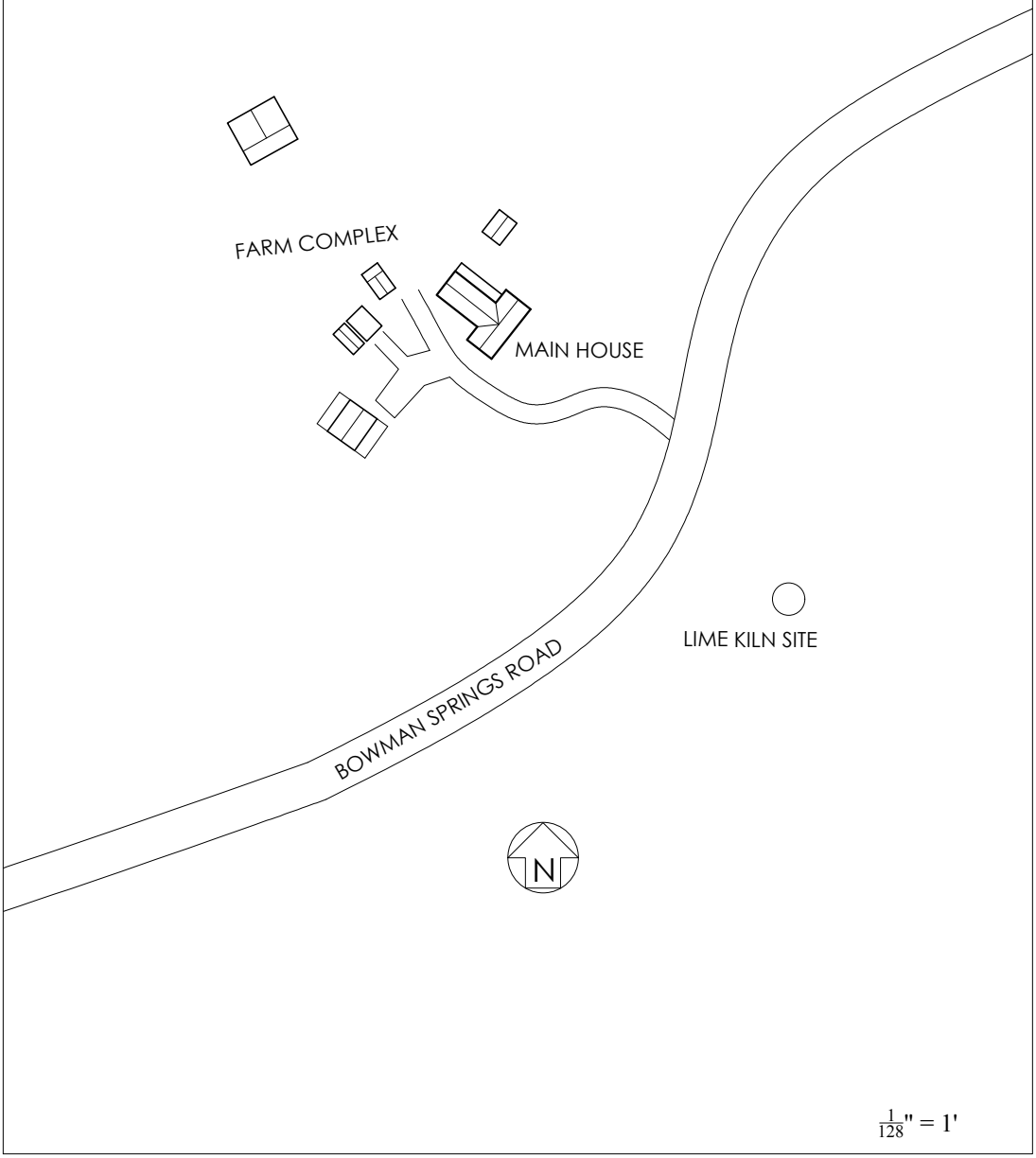
(NOT TO SCALE)

SHADED REGION
DENOTES ADDITIONS



AU1 (Sensabaugh House)

SURVEYED
08/02/2017



AU1 (Sensabaugh House)

SURVEYED
08/02/2017

Photo: Front oblique. Author, 2017.

Photo: Scored stucco. Author, 2017.

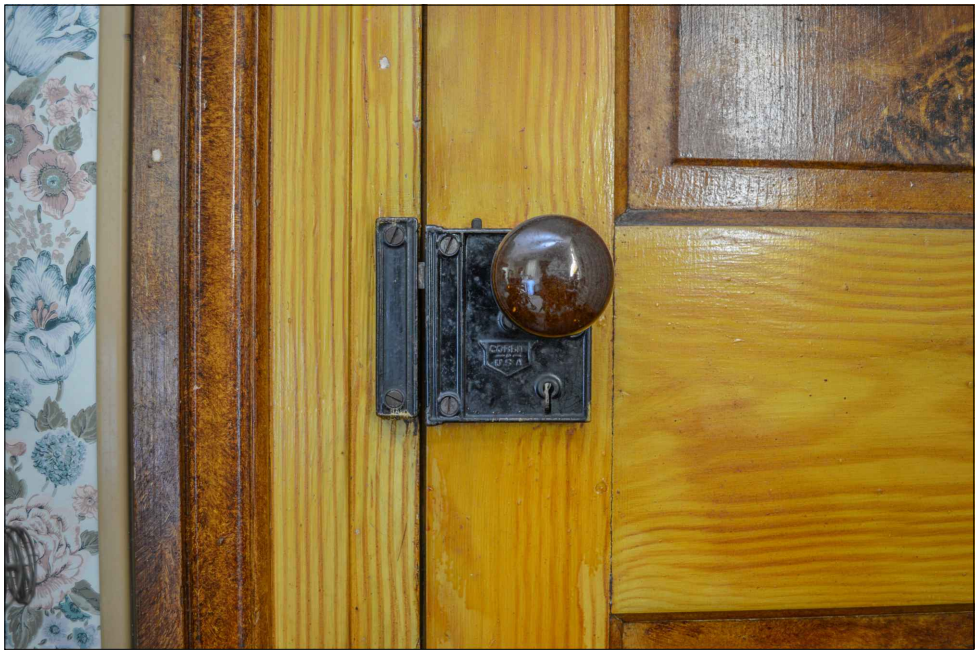


Photo: Typical box lock, with wood graining on door in background. Author, 2017.

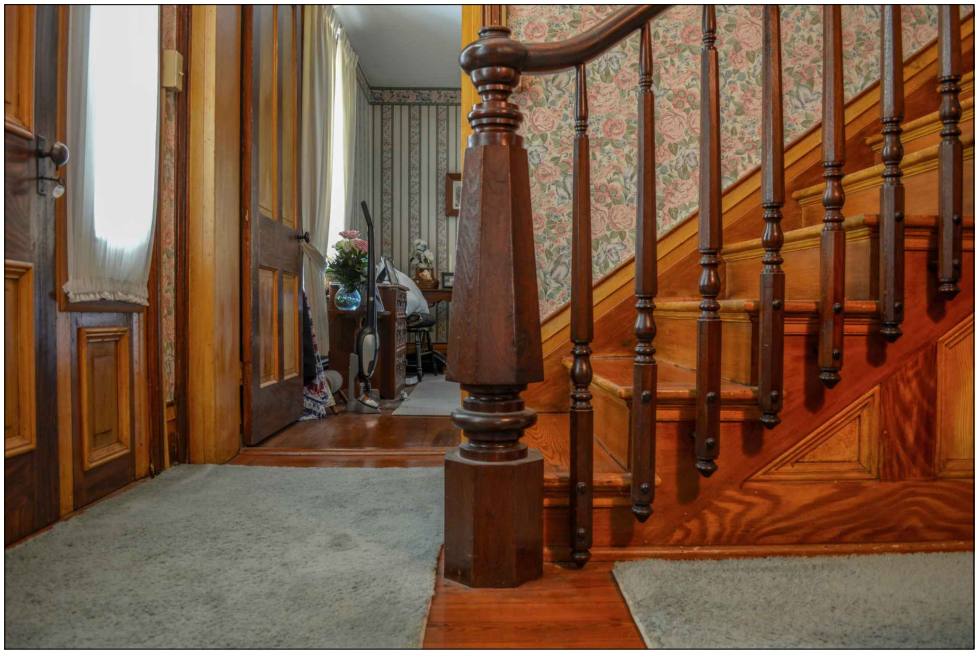


Photo: Newell detail, main staircase. Author, 2017.

Photo: Mantel, 1st floor bedroom. Author, 2017.

Photo: Interior detail of gravel wall construction, taken from the attic. Author, 2017.

AU2 (Rissmeyer-Murray House)

SURVEYED 08/03/2017

DHR# N/A

Status: Extant, surveyed
Historic Use: Residential
Current Use: Residential

Built: Unknown
Source of date: N/A

Evidence of Construction: Architectural evidence from site visit, Owner interaction, historic photographs of renovation

Maps:
1864: Hunter
1870: Hunter
1875: not noted
1885: Hunter

Prior Surveys: none

Stories: 2

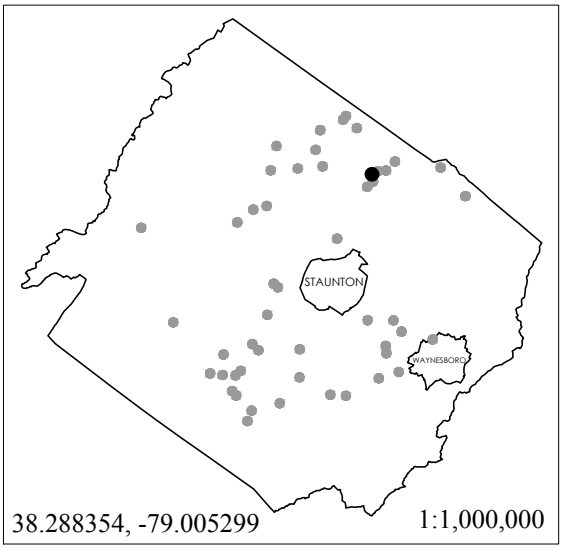
Bays: 3

Roof Shape: Hipped

Nearest gravel wall building: Broyles House (AU4) - 0.6 miles

Photo: David Rissmeyer and Mary Murray, 1993.

The Rissmeyer-Murray House is a gravel wall house located in the community of Roman, Virginia. The house is located in a cluster of gravel wall buildings and is one of five within a two-mile radius. The house was remodeled in the early 1990s by the current owners, whose renovation photos offered insight into the gravel wall material. The two-story, three bay house has a hipped roof and interior end chimneys, which would suggest a date close to the Civil War. A concrete block center ell is located off the back of the main house. The concrete blocks are colored and textured to mimic brownstone.



AU2 (Rissmeyer-Murray House)

SURVEYED 08/03/2017

EXTERIOR

Foundation:
Continuous, fieldstone, partially visible above grade

Exterior finish:
Stucco, scored to give the appearance of stone block.

Porch:
One-story, above grade (accessible by steps) with seven Tuscan columns across the front, wraps around to the west elevation. Simple, square balusters.

Windows:
Replacement 1-over-1 double-hung sash

Front Door:
Door with single light above lock rail, interior hardware. Panel above door on outside. Current door replacement; evidence exists of original double doors.

Chimneys:
3 brick, 2 in I-house portion, 1 in ell. I-house chimneys match and have a corbelled detail at top, while the ell chimney is now capped with metal.

Eaves:
Wood, plain

Roof:
Hipped, with gable on the ell.

Additions:
Extensive renovation ca. 1993, that saw windows added and living room added.

Exterior wall thickness:
1'-1"

INTERIOR

Interior finish:
Plaster

Interior details:
Wood graining on doors and woodwork.

Doors:
Box locks on all doors, except for front door, which has interior hardware.

Staircase:
Half-flight with landing.

Floor joist spacing (captured in basement):
2"x8.5" joists, spaced 18" OC

Interior wall thickness:
1' (gravel wall), 6" (stud wall)

Interior wall material:
Gravel wall (wall between center hall and living room), stud wall (wall between center hall and sitting room)

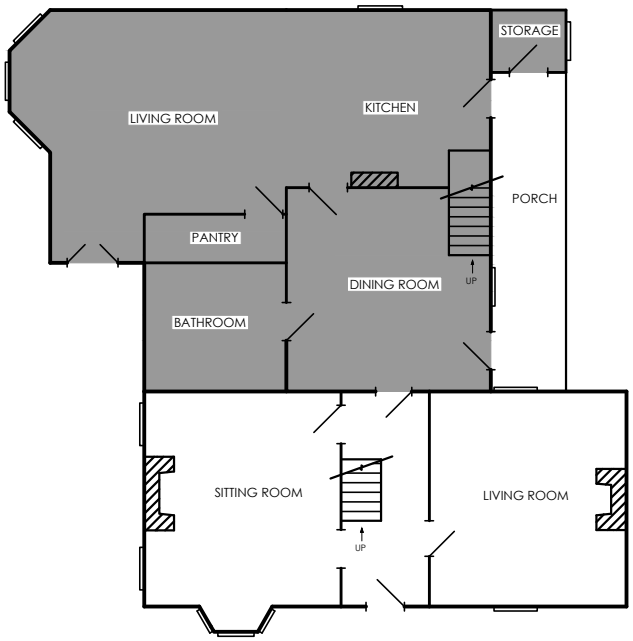
Additions/changes:
Windows added, interior renovated and changed extensively, however, much historic fabric remains.

AU2 (Rissmeyer-Murray House) SURVEYED 08/03/2017

FIRST FLOOR PLAN

(NOT TO SCALE)

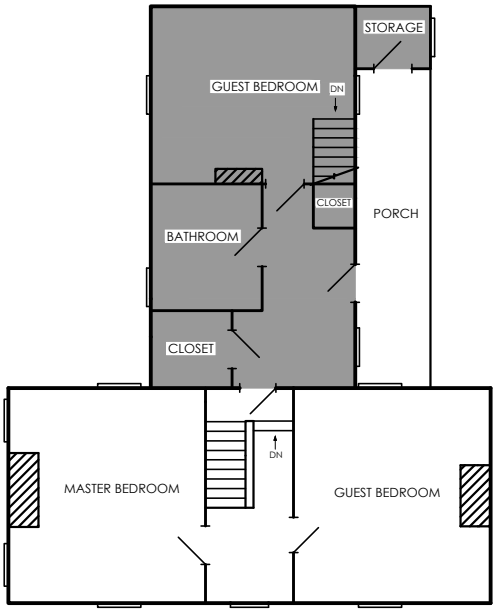
SHADED REGION
DENOTES ADDITIONS



SECOND FLOOR PLAN

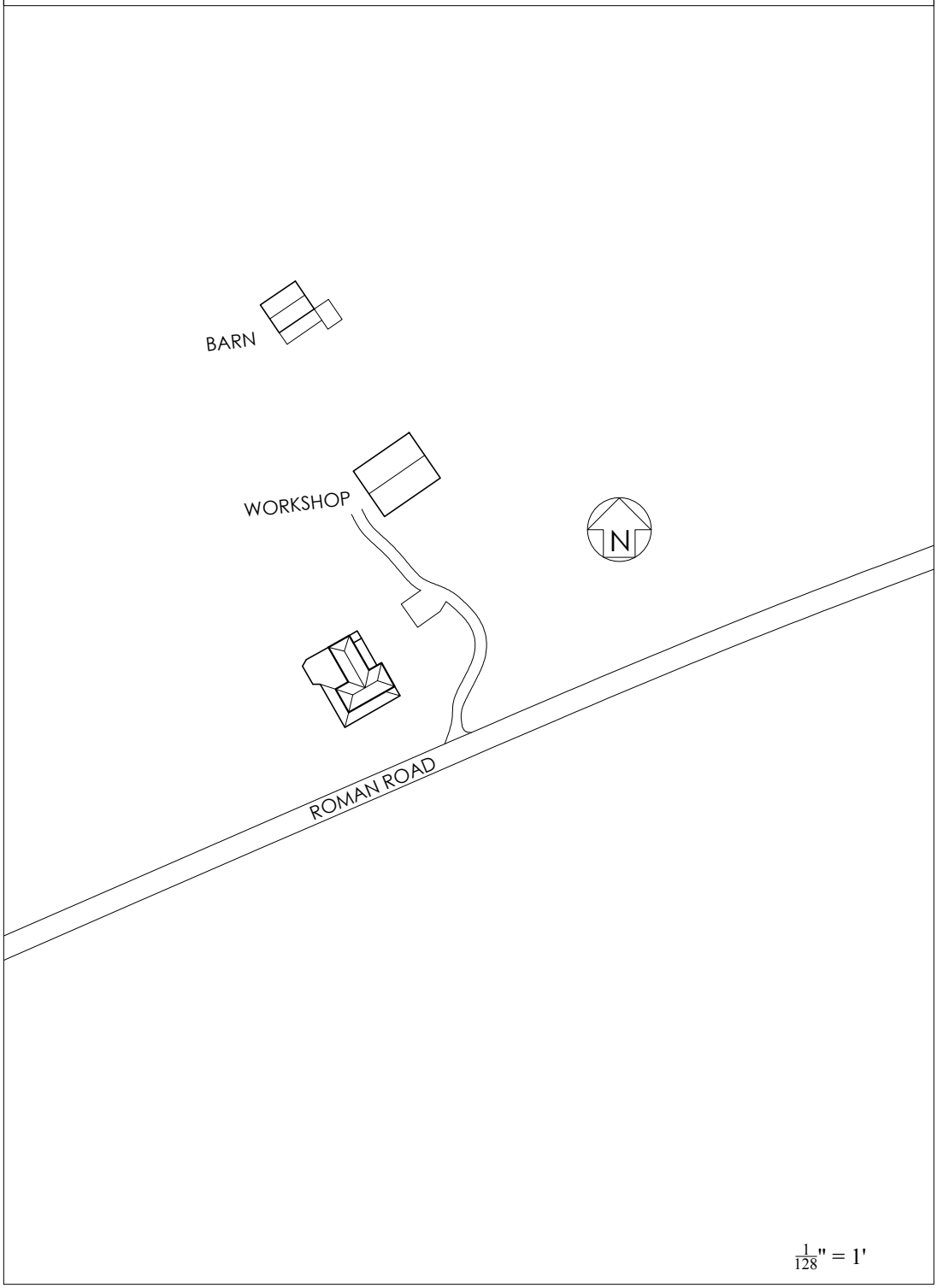
(NOT TO SCALE)

SHADED REGION
DENOTES ADDITIONS



AU2 (Rissmeyer-Murray House)

SURVEYED
08/03/2017



$\frac{1}{128}$" = 1'

AU2 (Rissmeyer-Murray House)

SURVEYED
08/03/2017

Photo: Front oblique. Author, 2017.

Photo: East elevation detail, with scored stucco. Author, 2017.

Photo: Rear ell concrete block detail. Author, 2017.

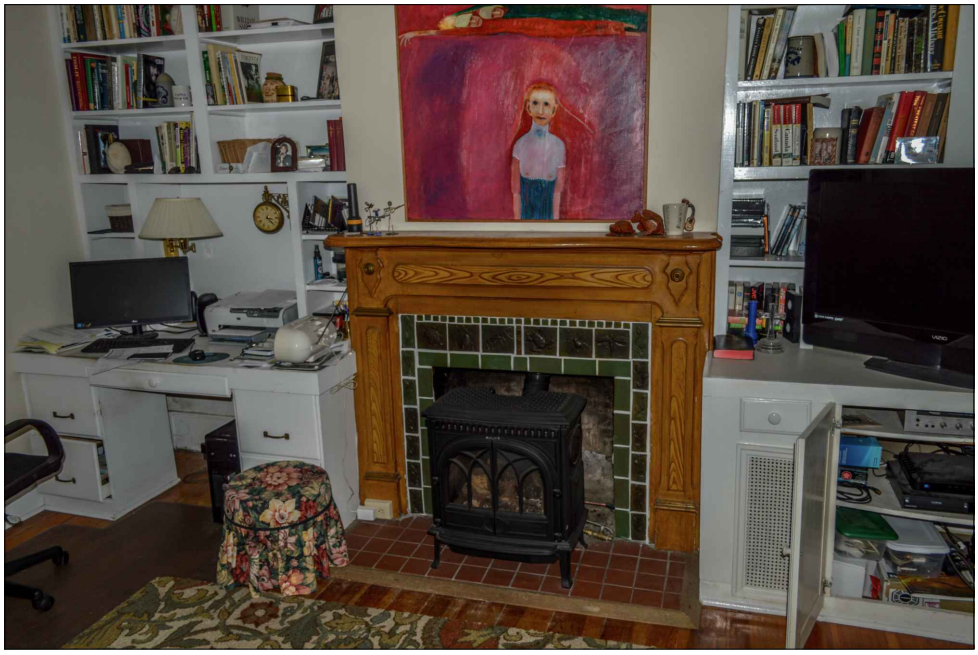


Photo: Mantel, living room. Author, 2017.

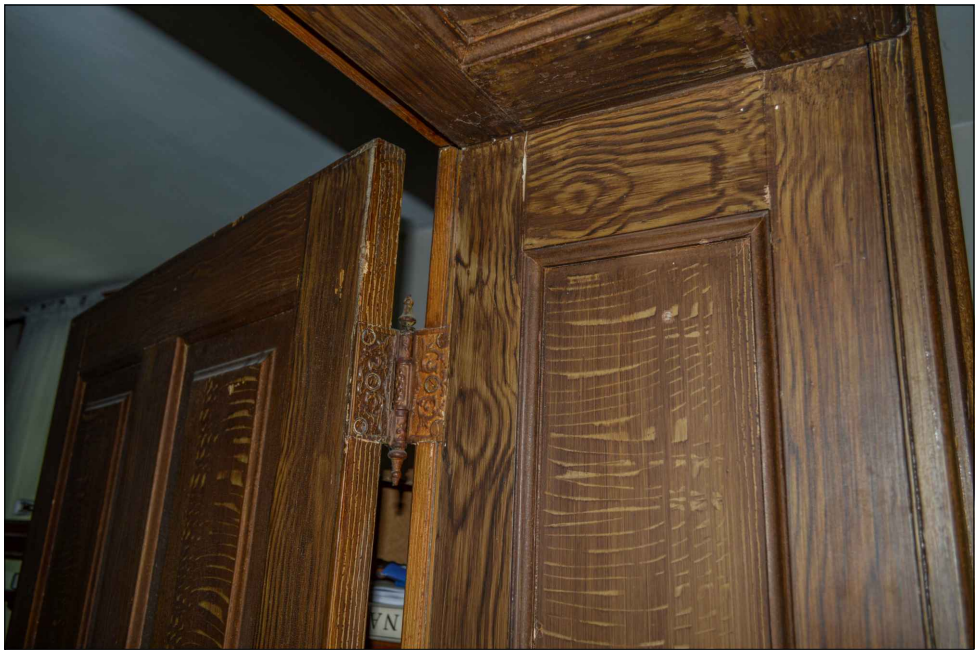


Photo: Interior graining. Author, 2017.

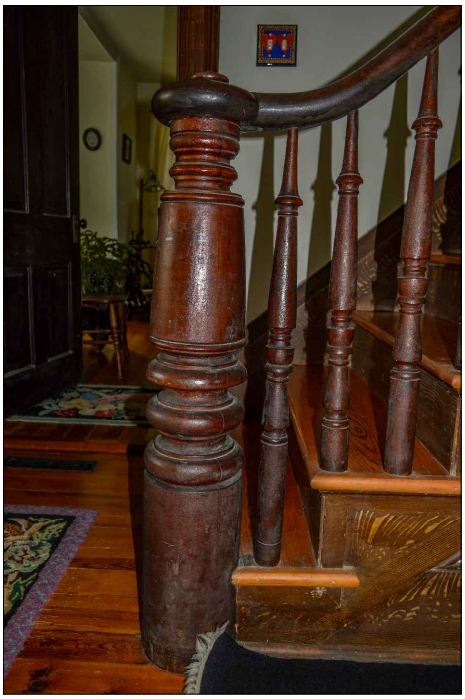


Photo: First floor stair newel. Author, 2017.

AU3 (Eavers House)

SURVEYED
12/18/2017

DHR# 07-557 (Bob Mish House)

Status: Extant, surveyed
Historic Use: Residential
Current Use: Residential

Built: ca. 1890
Source of date: Prior survey

Evidence of Construction: Architectural evidence from site visit

Maps:
1864: Not included
1870: Noted, unnamed
1875: Not noted
1885: W.B. Glover

Prior Surveys: G.P. Heffelfinger, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), October 1971; Ann McCleary, VHLC, August 1979

Stories: 2

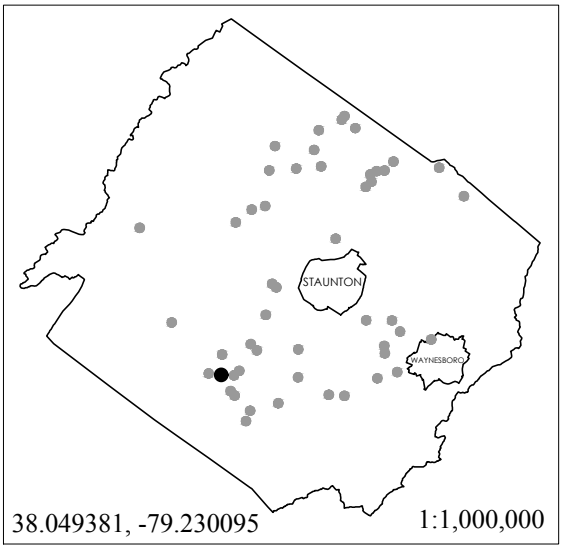
Bays: 3

Roof Shape: Hipped

Nearest gravel wall building: Palmer House (AU15) - 1.0 mile


Photo: Author, 2017

The Eavers House is a ca. 1890 gravel wall house located near the village of Middlebrook, Virginia. Architectural historian Ann McCleary noted during her 1979 survey that the house exhibits "a cross between the well-established I house and double-pile Georgian house traditions." Put simply, the Eavers House is an I-house with an integral rear ell and a small room on the rear of the left I-house room. Interior chimneys, a low-pitched hipped roof, and an entrance with sidelights and a transom (matched on the second floor) are stylistic features consistent with other late-19th century houses.



AU3 (Eavers House)

SURVEYED 12/18/2017

EXTERIOR

Foundation:
Continuous, fieldstone, partially visible above grade

Exterior finish:
Stucco, scored to give the appearance of stone block.

Porch:
One-story, above grade (accessible by steps) with four square columns across the front, two pilasters at intersection with the facade. Sawn balusters, both on first and second levels.

Windows:
Replacement 2-over-2 double-hung sash

Front Door:
Decorative, four octagonal panels, replacement hardware. Paired Italianate brackets over door, sidelights and transom surround door, which is mirrored on the second floor.

Chimneys:
3 brick, 2 in I-house portion, 1 in ell. All chimneys identical, with corbelled detail at top.

Eaves:
Wood, plain

Roof:
Hipped with low pitch, standing seam metal roof

Additions:
Closed-in porch, bedroom, and breakfast room (all first floor: see plan)

Exterior wall thickness:
1'-1"

INTERIOR

Interior finish:
Plaster

Interior details:
Crosettes on door and window openings in sitting room, identical baseboards in I-house portion.

Doors:
Interior hardware on stair hall doors, box locks on all other doors

Staircase:
Full-flight, balusters identical to other houses in area (AU1, AU3)

Floor joist spacing (captured in basement):
2"x10" joists running horizontally with front plane of house, spaced 25" OC

Interior wall thickness:
0'-11"

Interior wall material:
All original walls gravel wall

Additions/changes:
Kitchen and dining room remodeled

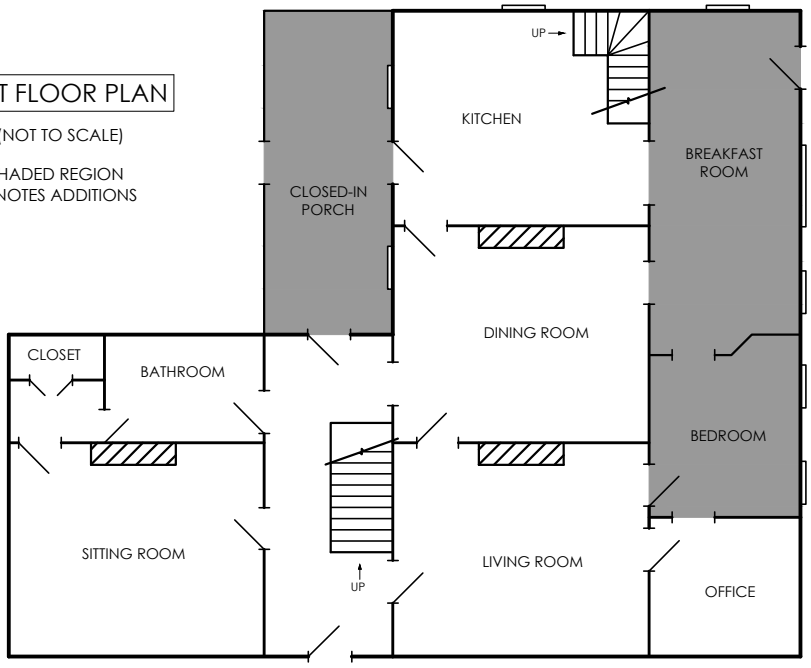
AU3 (Eavers House)

SURVEYED
12/18/2017

FIRST FLOOR PLAN

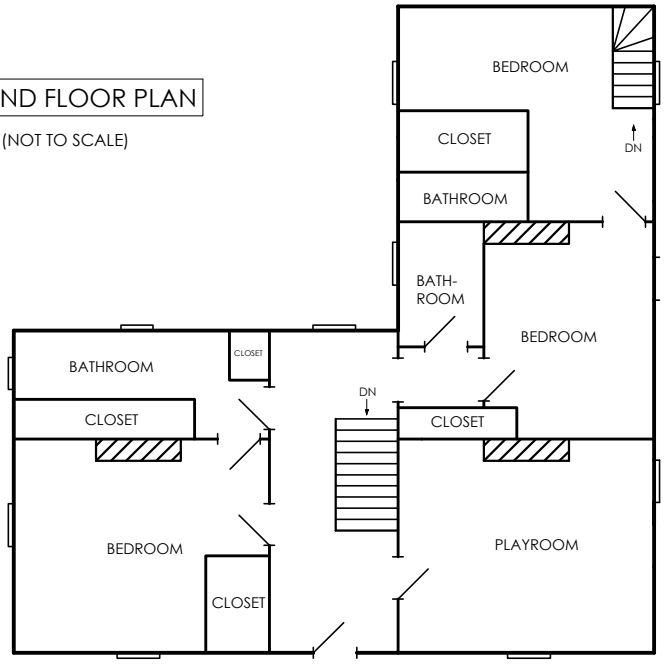
(NOT TO SCALE)

SHADED REGION
DENOTES ADDITIONS



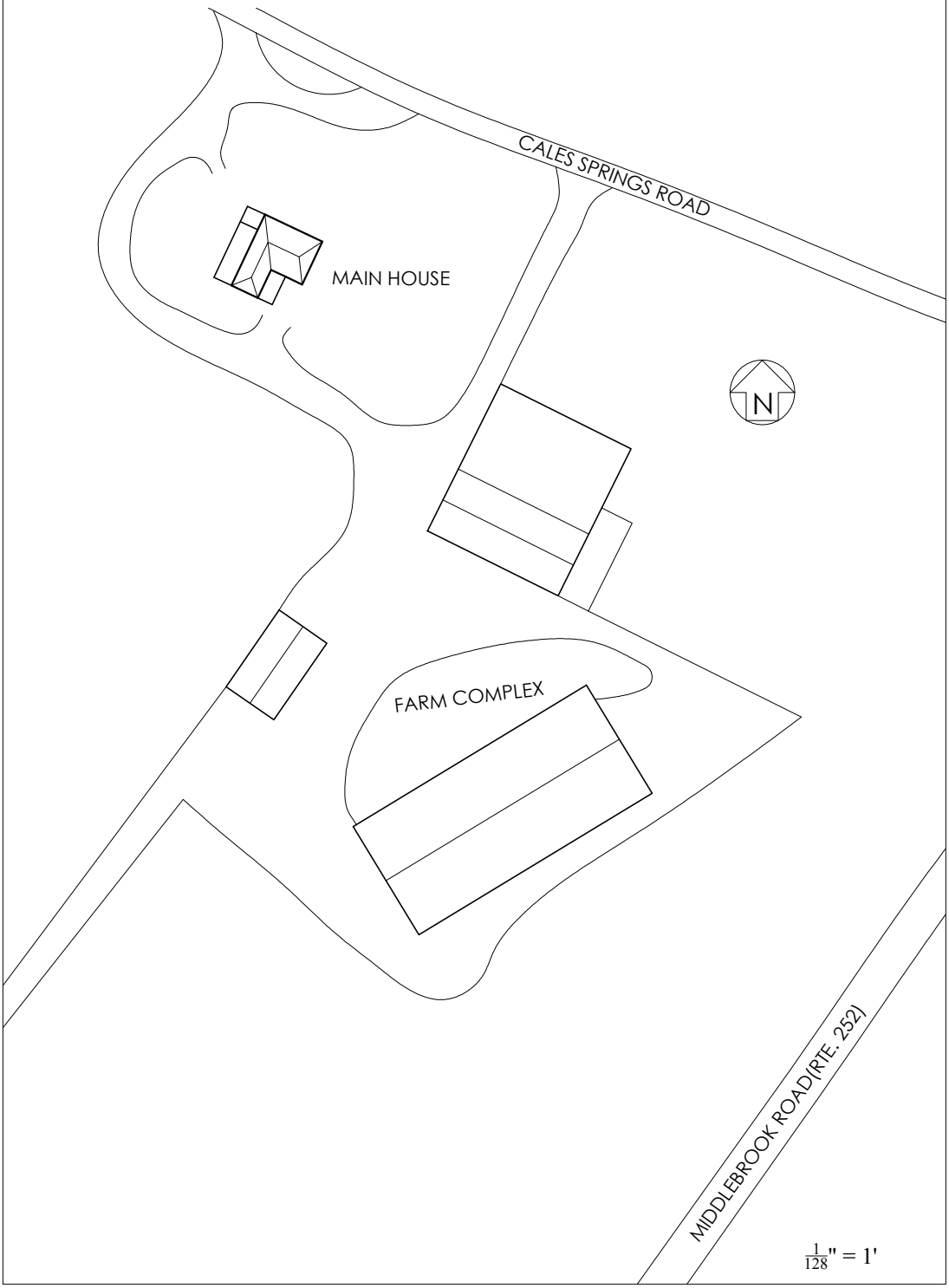
SECOND FLOOR PLAN

(NOT TO SCALE)



AU3 (Eavers House)

SURVEYED
12/18/2017



AU3 (Eavers House)

SURVEYED
12/18/2017

Photo: Front facade. Author, 2017.

Photo: Scored stucco. Author, 2017.

Photo: Sitting room fireplace and mantel. Author, 2017.

Photo: Living room fireplace and mantel. Author, 2017.

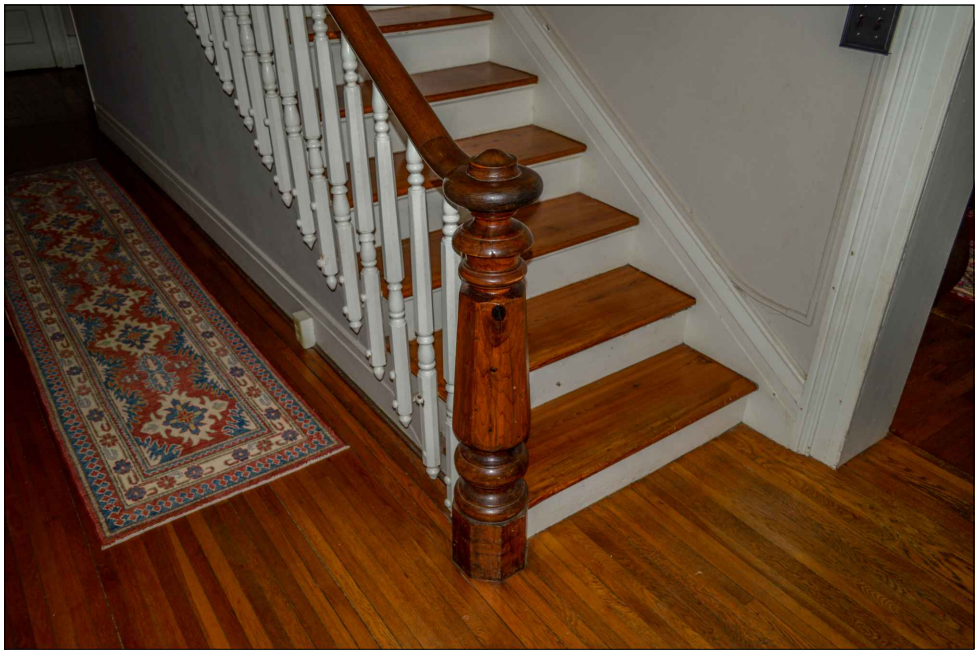


Photo: Main staircase. Author, 2017.

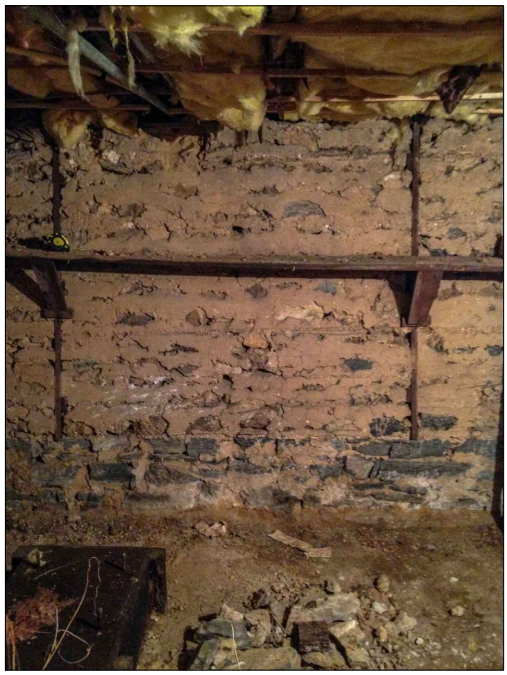


Photo: Basement gravel wall, taken from underneath the sitting room. Author, 2017.

AU4 (Hamilton House)

SURVEYED
8/8/2017

DHR# N/A

Status: Extant, surveyed
Historic Use: Residential
Current Use: Residential

Built: 1879
Source of date: Tax records

Evidence of Construction: Architectural evidence from site visit

Maps:
1864: Not included
1870: Not noted
1875: Not noted
1885: W.W. Hamilton

Prior Surveys: none

Stories: 2

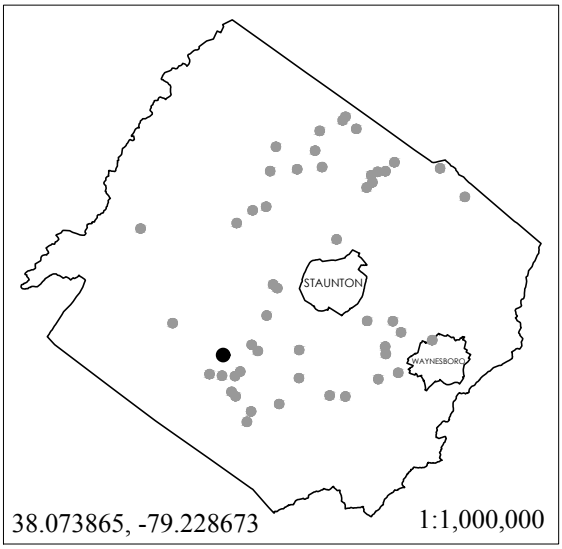
Bays: 3

Roof Shape: Hipped

Nearest gravel wall building: Eavers House (AU3) - 1.7 miles


Photo: Author, 2017

The Olson House is an 1879 gravel wall house located near the village of Middlebrook, Virginia. Like the nearby Eavers House (AU3), Palmer House (AU15), and Sensabaugh House (AU1), the house has an integral ell, also constructed of gravel wall. The house has a hipped roof and internal end chimneys. Evidence of extensive decorative painting in the central hall was uncovered by the current owner upon the removal of wallpaper. The primary staircase has identical balusters as the Sensabaugh House and the Eavers House.



AU4 (Hamilton House)

SURVEYED 8/8/2017

EXTERIOR

Foundation:
Continuous, fieldstone, partially visible above grade

Exterior finish:
Stucco, scored to give the appearance of stone block.

Porch:
One-story, above grade (accessible by steps) with four square columns across the front, two pilasters at intersection with the facade. Decorative brackets at porch eave. Sawn balusters.

Windows:
Original 2-over-2 double-hung sash

Front Door:
Decorative, four octagonal panels, replacement hardware. Paired Italianate brackets over door, sidelights and transom surround door.

Chimneys:
3 stuccoed brick, 2 in I-house portion, 1 in ell. All chimneys identical, with corbelling at top.

Eaves:
Wood, plain

Roof:
Hipped with low pitch, standing seam metal roof

Additions:
Closed-in porch, laundry room, closet (all first floor: see plan)

Exterior wall thickness:
Not captured

INTERIOR

Interior finish:
Plaster, wallpaper, decorative paint

Interior details:
Crosettes on door and window openings in first floor living room, original doorstops exist on first floor, identical baseboards as AU1.

Doors:
Box locks on all doors.

Staircase:
Half-flight, balusters identical to other houses in area (AU1, AU3)

Floor joist spacing (captured in basement):
2"x10" joists, spaced 18-24" OC

Interior wall thickness:
Not captured

Interior wall material:
Gravel wall (wall between center hall and bedroom), stud wall (wall between center hall and living room)

Additions/changes:
Currently under renovation

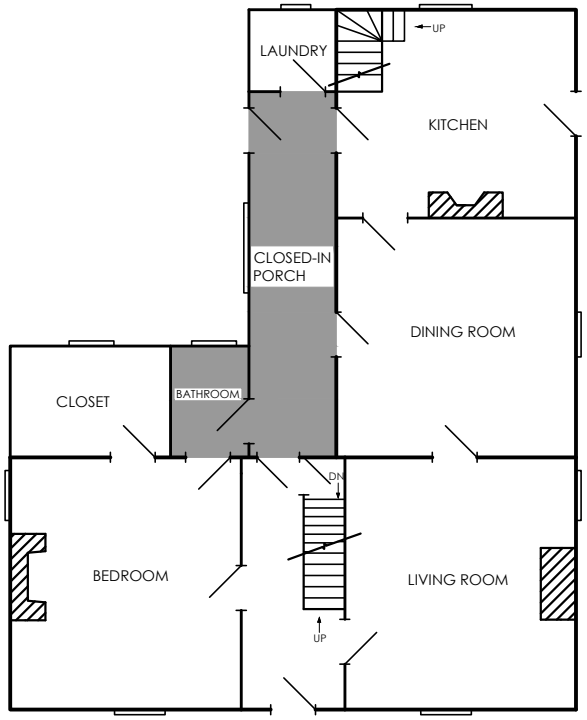
AU4 (Hamilton House)

SURVEYED
8/8/2017

FIRST FLOOR PLAN

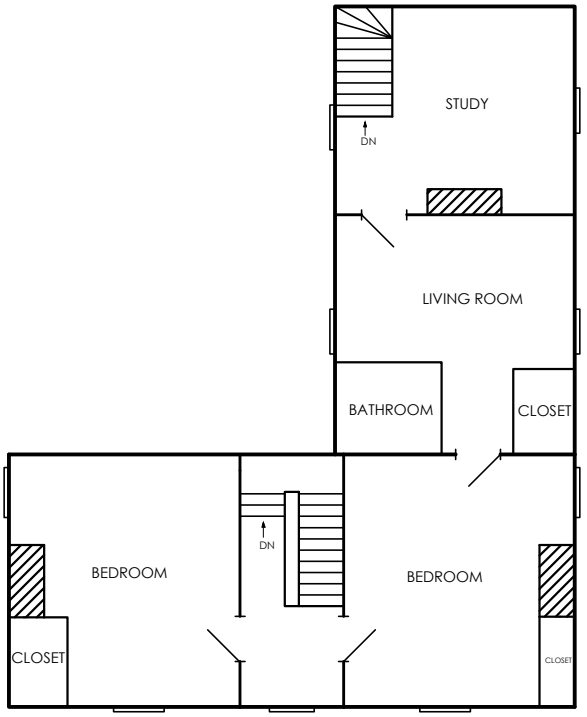
(NOT TO SCALE)

SHADED REGION
DENOTES ADDITIONS



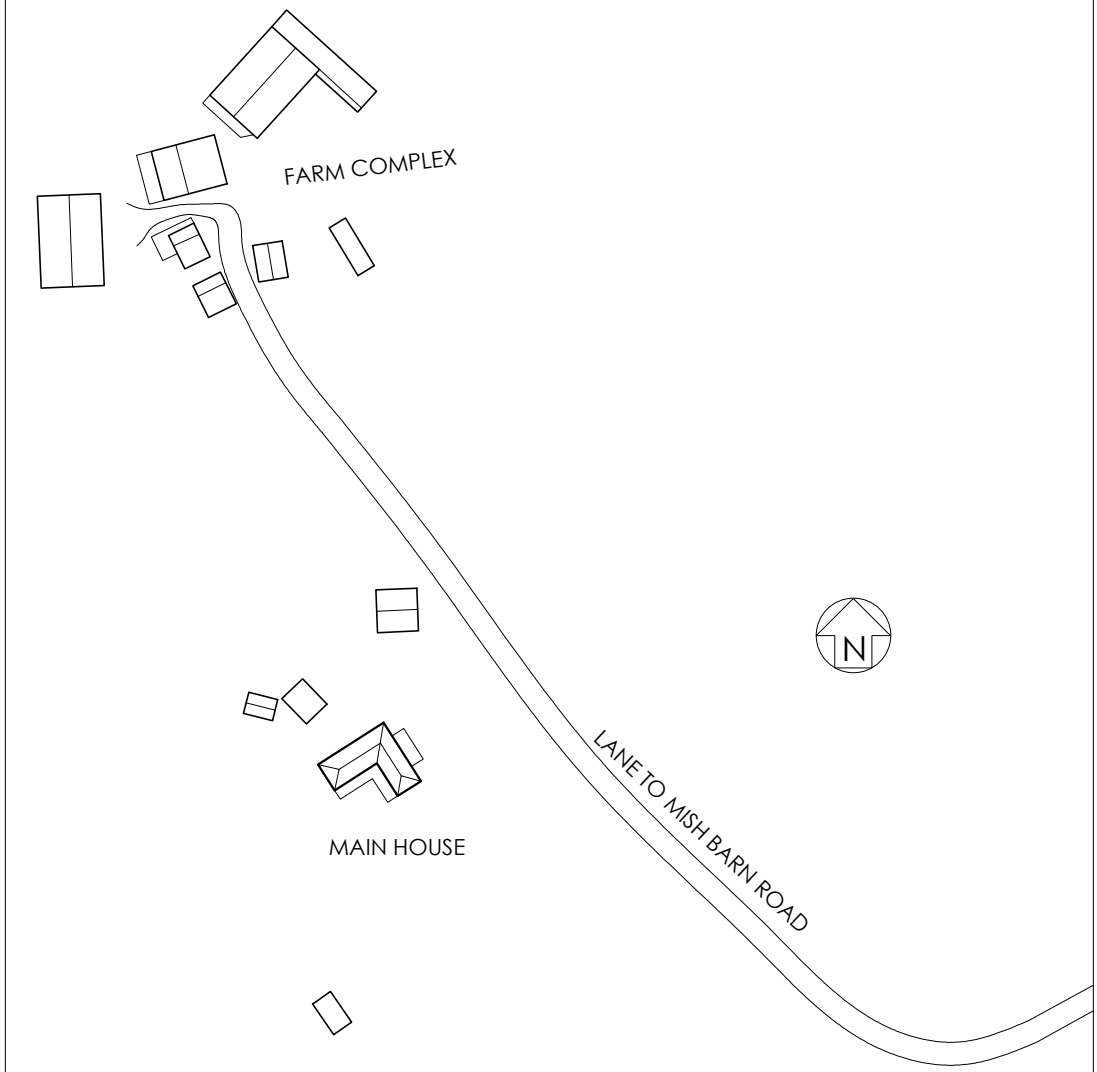
SECOND FLOOR PLAN

(NOT TO SCALE)



AU4 (Hamilton House)

SURVEYED
8/8/2017



$\frac{1}{128}$" = 1'

AU4 (Hamilton House)

SURVEYED
8/8/2017

Photo: Rear oblique. Author, 2017.

Photo: North elevation detail, showing scored stucco and original color. Author, 2017.

Photo: First floor bedroom fireplace and mantel. Author, 2017.

Photo: Evidence of original decorative paint, center hall. Author, 2017.

AU4 (Hamilton House)

SURVEYED
8/8/2017

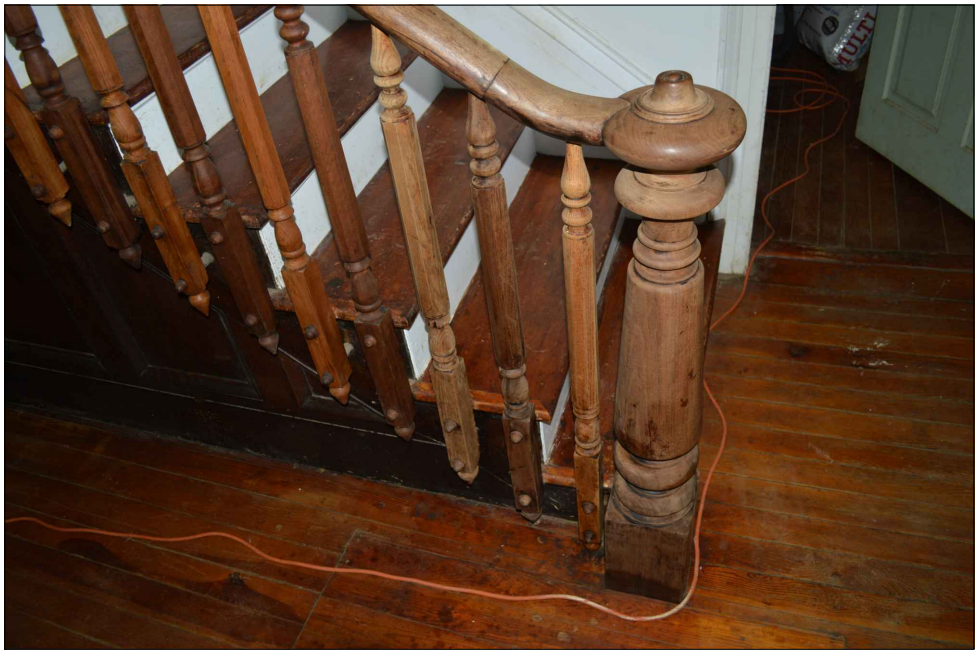


Photo: Main staircase. Author, 2017.

Photo: Basement gravel wall, taken from underneath the bedroom. Author, 2017.

AU5 (Broyles House)

SURVEYED
8/9/2017

DHR# 07-395 (W.A. Landes House)

Status: Extant, surveyed
Historic Use: Residential
Current Use: Residential

Built: 1890
Source of date: Tax records

Evidence of Construction: Architectural evidence from site visit

Maps:
1864: Not noted
1870: Not noted
1875: Not noted
1885: Not noted

Prior Surveys: Ann McCleary, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), August 1978.

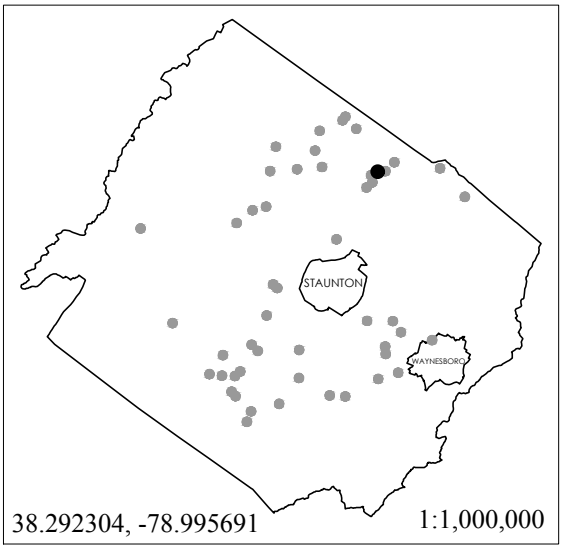
Stories: 2

Bays: 3

Roof Shape: Gable

Nearest gravel wall building: Rissmeyer-Murray House (AU2) - 0.6 miles

The Broyles House is an 1890 gravel wall house located near the community of Roman, Virginia. The house has a gable roof and internal gable end chimneys. A two-story, frame ell with a gable roof was added onto the rear of the house at a later date. McCleary noted in her 1978 survey that the house's interior exhibited Greek Revival influence. As such, she estimated that the house dated to the mid-19th century. However, tax records indicate that David S. Hunter, Jr. had the house built in 1890.



AU5 (Broyles House)

SURVEYED 8/9/2017

EXTERIOR

Foundation:
Continuous, fieldstone, visible above grade

Exterior finish:
Stucco, unscored

Porch:
One-story, above grade (inaccessible from exterior), no roof. Evidence of earlier, two-level porch, likely similar to the one at the Eavers House (AU3).

Windows:
Replacement 6-over-6 double-hung sash. Owner still has earlier, possibly original, windows in his possession.

Front Door:
Plain, four raised panels. Box lock, no evidence of hardware replacement. Sidelights and transom surround door, plain in style.

Chimneys:
3 brick, 2 in I-house portion, 1 in ell. I-house chimneys identical, with single corbelled course near top.

Eaves:
Wood. Paired brackets at corners, over openings.

Roof:
Gable with low pitch, standing seam metal roof

Additions:
Rear ell, laundry, bathroom (see plan)

Exterior wall thickness:
Not captured

INTERIOR

Interior finish:
Plaster, wood paneling, sheetrock

Interior details:
Plain door and window moldings, baseboards

Doors:
Box locks on all doors.

Staircase:
Half-flight, turned newel, sawn balusters.

Floor joist spacing (captured in basement):
2"x10" joists, spaced 24" OC

Interior wall thickness:
Not captured

Interior wall material:
Gravel wall (wall between center hall and living room), stud wall (wall between center hall and bedroom)

Additions/changes:
Door from center hall to bathroom in ell sheetrocked over by current owner. Some plaster in center hall replaced with sheetrock by current owner. Currently under renovation.

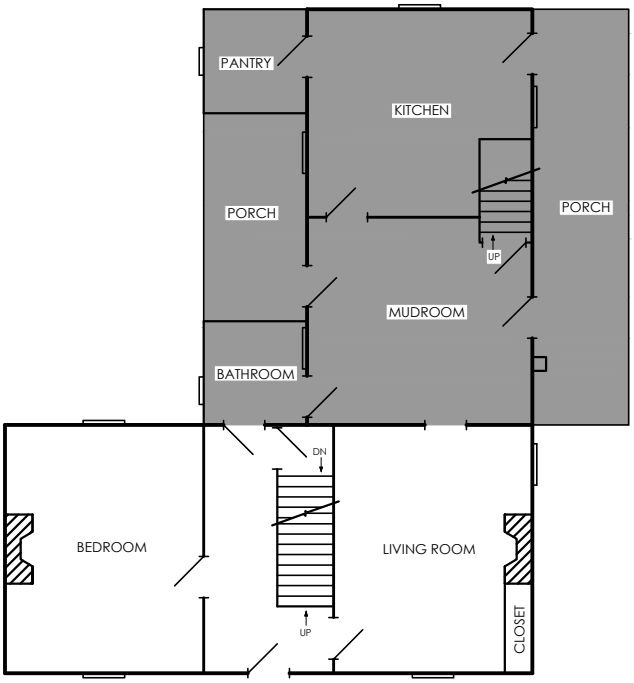
AU5 (Broyles House)

SURVEYED
8/9/2017

FIRST FLOOR PLAN

(NOT TO SCALE)

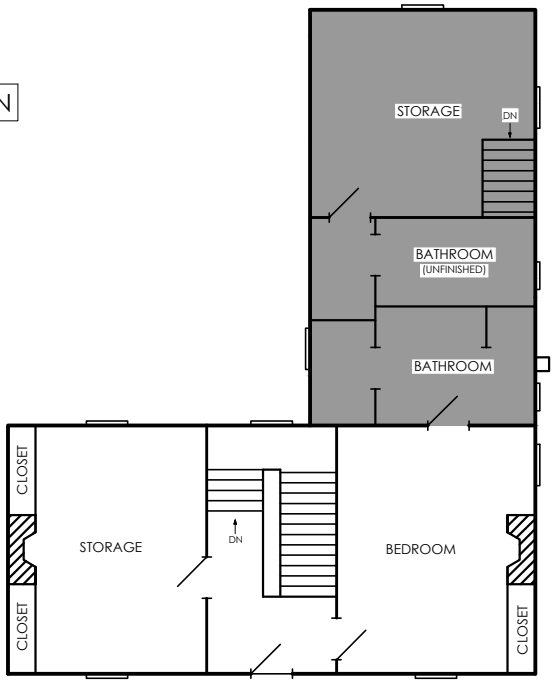
SHADED REGION
DENOTES ADDITIONS



SECOND FLOOR PLAN

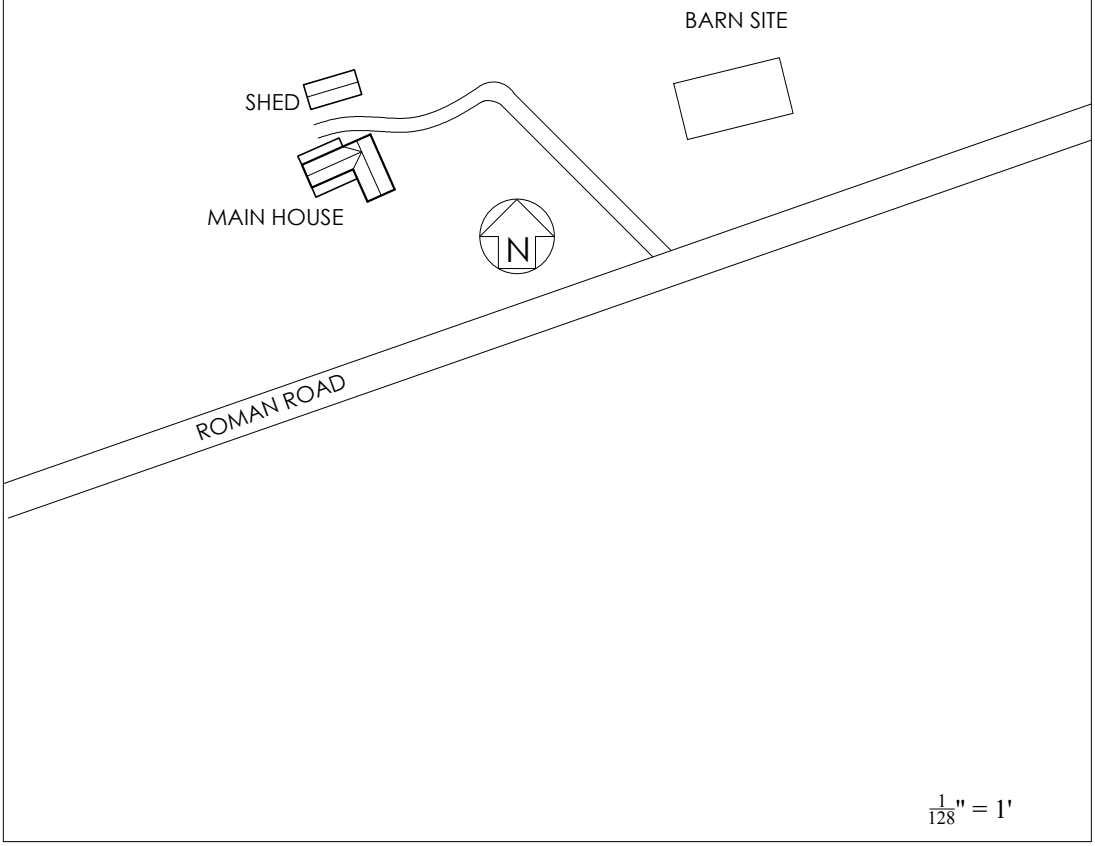
(NOT TO SCALE)

SHADED REGION
DENOTES ADDITIONS



AU5 (Broyles House)

SURVEYED
8/9/2017



$\frac{1}{128}$" = 1'

AU5 (Broyles House)

SURVEYED
8/9/2017

Photo: Front elevation. Author, 2017.

Photo: South elevation. Author, 2017.

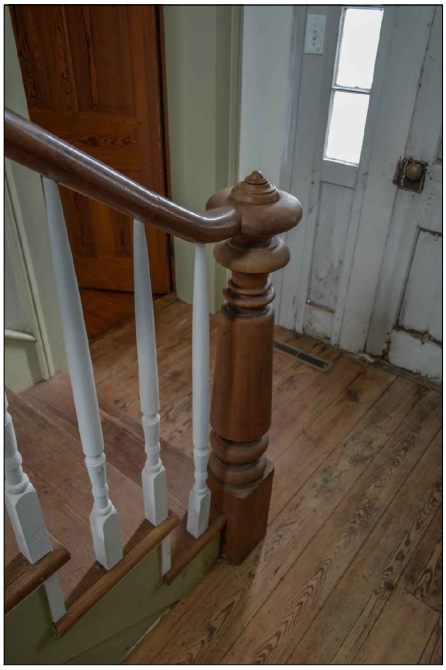


Photo: Newel detail, main stair. Author, 2017.

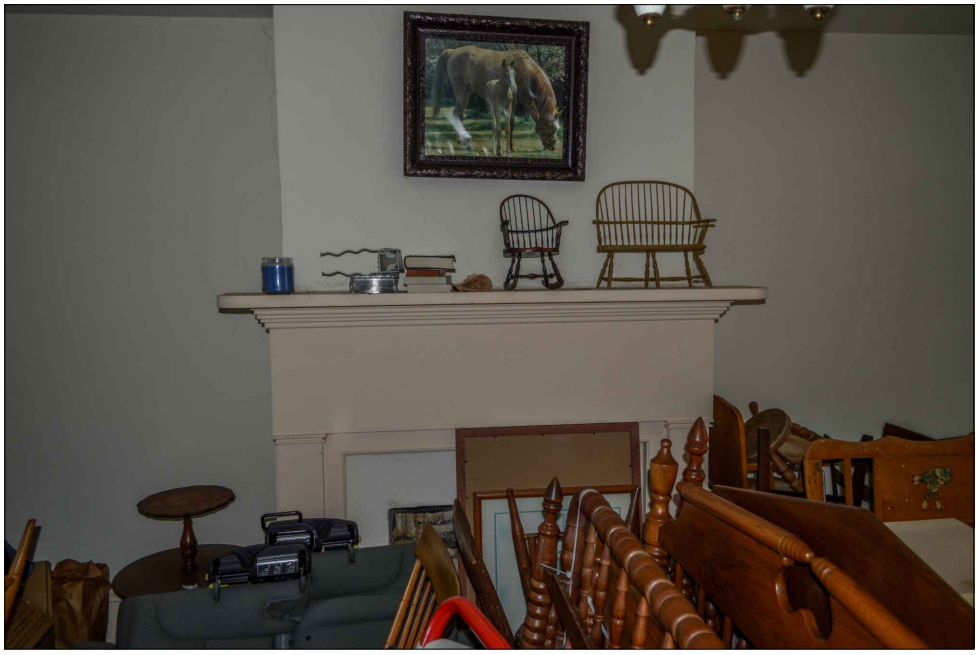


Photo: Mantel, first floor bedroom. Author, 2017.

Photo: Basement gravel wall detail. Author, 2017.

Photo: Attic interior gable end, showing original form boards in place. Author, 2017.

AU6 (Switzer House)

SURVEYED
10/7/2017

DHR# 07-364 (M.C. Switzer House)

Status: Extant, exterior surveyed
Historic Use: Residential
Current Use: Abandoned, farm storage

Built: ca. 1868
Source of date: Cornerstone

Evidence of Construction: Prior survey, visual survey

Maps:
1864: Not noted
1870: R.H. Dudley
1875: Not noted
1885: Wm. Evers

Prior Surveys: Ed Chappell, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), June 1977.

Stories: 2

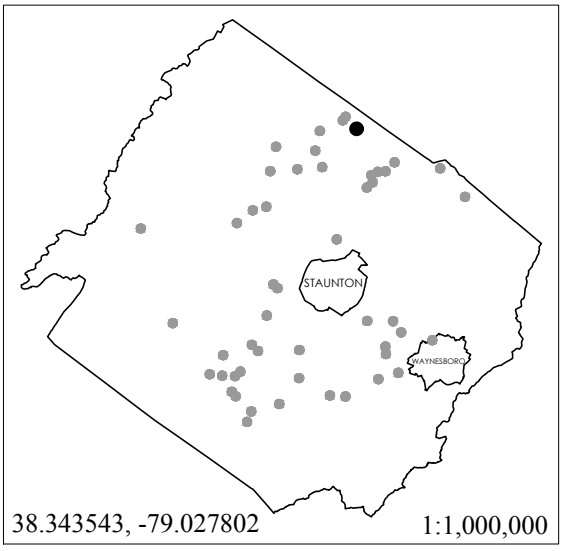
Bays: 3

Roof Shape: Gable

Nearest gravel wall building: Robson House (AU30) - 1.3 miles


Photo: Biggers, 2017.

The Switzer House is a gravel wall house located near the community of Centerville, Virginia. The house was built by William H. Peterson and an "O.H.C." in 1868 for William Evers. The house is constructed into the side of a hill, meaning that its main facade is two-stories, while the back is three. The interior was not inspected as part of this survey, but Ed Chappell noted in his 1977 survey that the house follows a modified double-pile, center passage plan, though he noted that "each of the three floor plans is different." Also on the property is a story-and-a-half kitchen house, also of gravel wall construction. According to the current owner, the main house once had a porch on its primary facade.



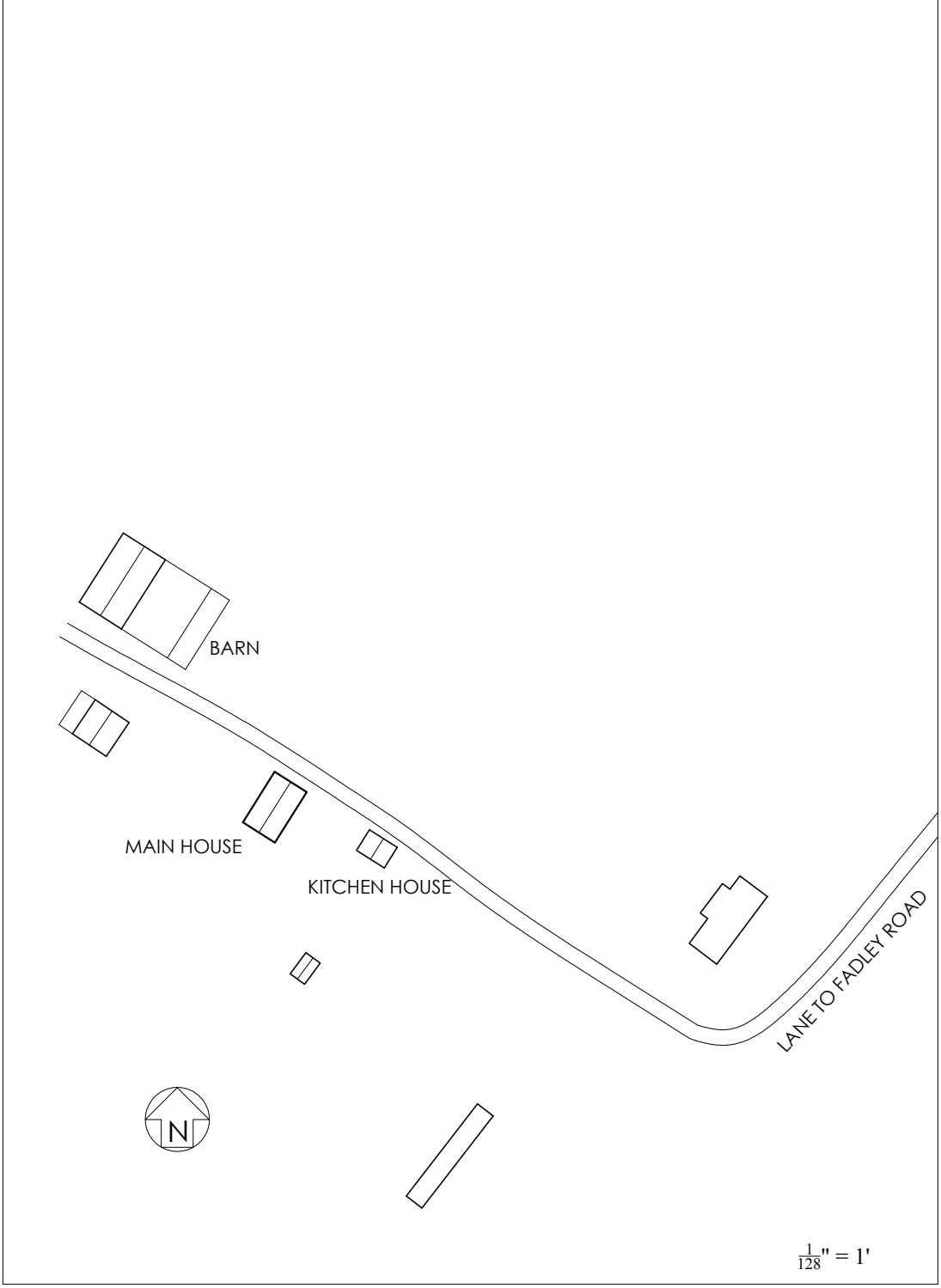
AU6 (Switzer House)

SURVEYED 10/7/2017

EXTERIOR	EXTERIOR
Foundation: Continuous, fieldstone, visible above grade Exterior finish: Stucco, unscored Porch: None, but pockets exist from earlier porch Windows: Replacement 1-over-1 double-hung sash, possibly original 6-over-6 double-hung sash. Two basement windows removed to create bays for farm storage. Front Door: Plain, four raised panels. Sidelights and transom surround door, plain in style. Chimneys: 1 stuccoed brick with corbelled courses at top. Four chimneys originally. Eaves: Wood. Plain. Roof: Gable, standing seam metal roof. Additions: None Exterior wall thickness: Not captured	Foundation: Continuous, fieldstone, partially visible above grade Exterior finish: Stucco, unscored Porch: None Windows: Possibly original 6-over-6 double-hung sash. Evidence of bricked-in window Front Door: Board and batten door, simple hardware. Chimneys: 1 brick exterior gable end Eaves: Wood. Plain. Roof: Gable, standing seam metal roof. Additions: None Exterior wall thickness: Not captured
Main House	**Kitchen Building**

AU6 (Switzer House)

SURVEYED
10/7/2017



AU6 (Switzer House)

SURVEYED
10/7/2017

Photo: Rear elevation. Author, 2017.

Photo: Side elevation. Author, 2017.

AU6 (Switzer House)

SURVEYED
10/7/2017

Photo: Front elevation. Author, 2017.

Photo: Main entrance, front elevation. Author, 2017.

Photo: First floor gravel wall detail. Author, 2017.

Photo: Gravel wall kitchen house. Author, 2017.

AU6 (Switzer House)

SURVEYED
10/7/2017

Photo: Front elevation. Chappell, 1977.

Photo: Gravel wall kitchen house. Chappell, 1977.

AU7 (Gasque House)

SURVEYED
8/9/2017

DHR# 07-334 (Garrett House)

Status: Extant, surveyed
Historic Use: Residential
Current Use: Residential

Built: 1872
Source of date: Tax records

Evidence of Construction: Architectural evidence from site visit

Maps:
1864: Andes
1870: Wm. Andes
1875: Noted (unnamed)
1885: Wm. G. Andes

Prior Surveys: Ed Chappell, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), June 1977. W.O. Bickle, Historical Inventory Project (AU25), WPA, September 1937.

Stories: 2

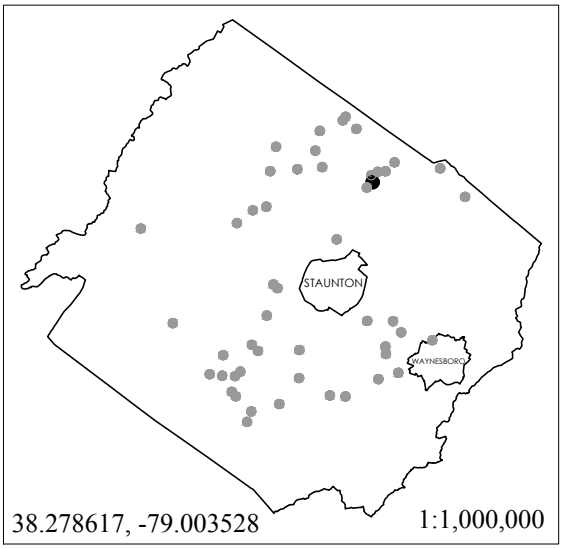
Bays: 3

Roof Shape: Hipped

Nearest gravel wall building: Cox House (AU8) - 0.6 miles


Photo: Author, 2017

The Gasque House is an 1872 gravel wall house located near the community of Roman, Virginia. The house has a hipped roof and internal chimneys on both lateral walls. With the exception of a porch on the side of the house, no additions exist. The house follows the double-pile, Georgian plan which became a symbol of status in post-Civil War Augusta County, as noted by Chappell and Ann McCleary. Greek Revival influences are visible on the interior. The Gasque House sits within a high concentration of gravel wall buildings near the Roman community. Also on the property is the remains of a gravel wall spring house.



AU7 (Gasque House)

SURVEYED 8/9/2017

EXTERIOR

Foundation:
Continuous, fieldstone, visible above grade

Exterior finish:
Stucco, unscored (replacement stucco)

Porch:
One-story, above grade (accessible by steps) with four square columns across the front. Sawn balusters.

Windows:
Replacement 6-over-6 double-hung sash.

Front Door:
Plain, four raised panels. Box lock, no evidence of hardware replacement. Sidelights and transom surround door.

Chimneys:
2 brick, identical, with corbelled detail near top.

Eaves:
Wood. Plain.

Roof:
Hipped with low pitch, standing seam metal roof

Additions:
None

Exterior wall thickness:
1'-0"

INTERIOR

Interior finish:
Plaster, sheet rock, wallpaper

Interior details:
Plain door and window moldings, baseboards

Doors:
Box locks on all doors.

Staircase:
Full-flight, turned newel, sawn balusters.

Floor joist spacing (captured in basement):
2"x10" joists, spaced 21" OC

Interior wall thickness:
Not captured

Interior wall material:
Gravel wall (all walls except lateral walls), stud wall (lateral walls).

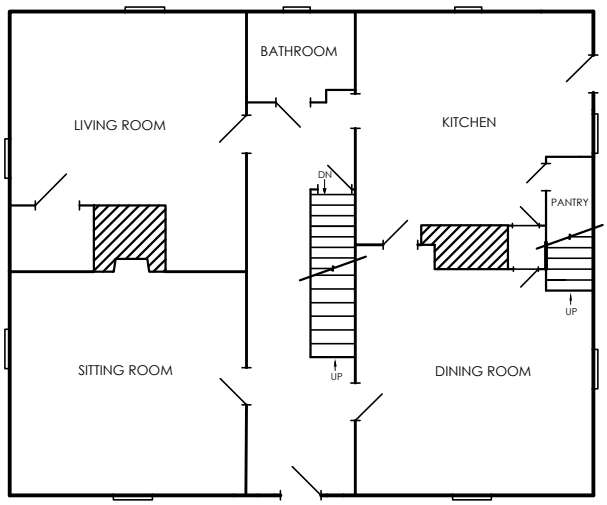
Additions/changes:
Bathrooms added to first and second floors. The first floor sitting room has a large amount of replacement material, including floor joists, crown moulding, baseboards, and flooring. Multiple rooms have built-out walls, added sometime during the past fifty years.

AU7 (Gasque House)

SURVEYED
8/9/2017

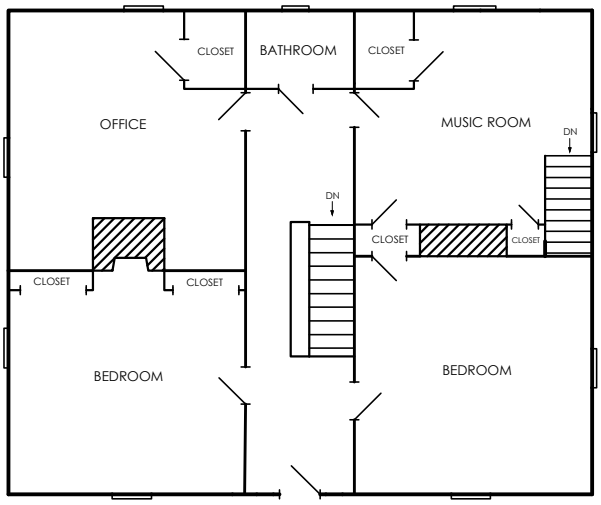
FIRST FLOOR PLAN

(NOT TO SCALE)



SECOND FLOOR PLAN

(NOT TO SCALE)



AU7 (Gasque House)

SURVEYED
8/9/2017

AU7 (Gasque House)

SURVEYED
8/9/2017

Photo: Front elevation. Author, 2017.

Photo: West elevation. Author, 2017.

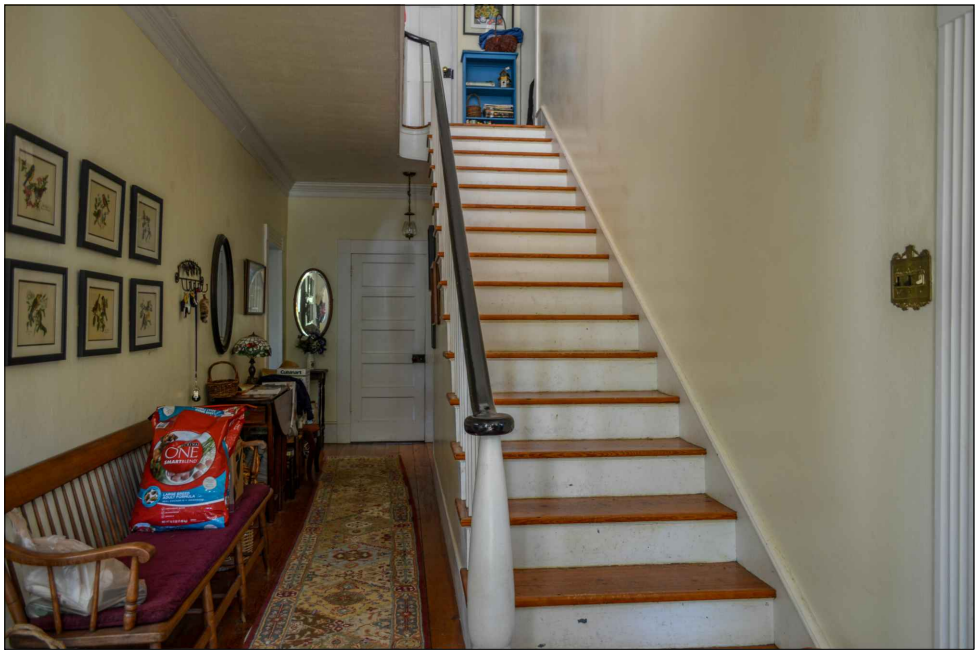


Photo: Main stair. Author, 2017.

Photo: Mantel, dining room. Author, 2017.

AU7 (Gasque House)

SURVEYED
8/9/2017

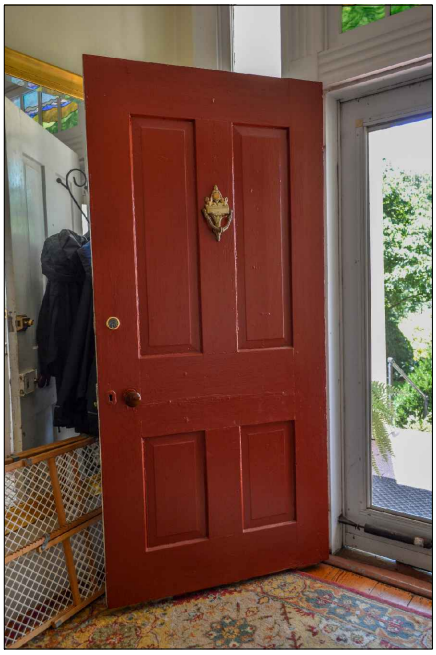


Photo: Front door. Author, 2017.

Photo: Remnants of gravel wall spring house, now in ruins. Author, 2017.

AU8 (Cox House)

SURVEYED
10/7/2017

DHR# 07-335 (Ivan Good House), 07-5203

Status: Extant, surveyed
Historic Use: Residential
Current Use: Residential

Built: ca. 1850-1875
Source of date: Prior survey

Evidence of Construction: Architectural evidence from site visit, prior survey

Maps:
1864: Not noted
1870: Not noted
1875: Not noted
1885: Jacob Hottinger's

Prior Surveys: Ed Chappell, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), June 1977.

Stories: 2

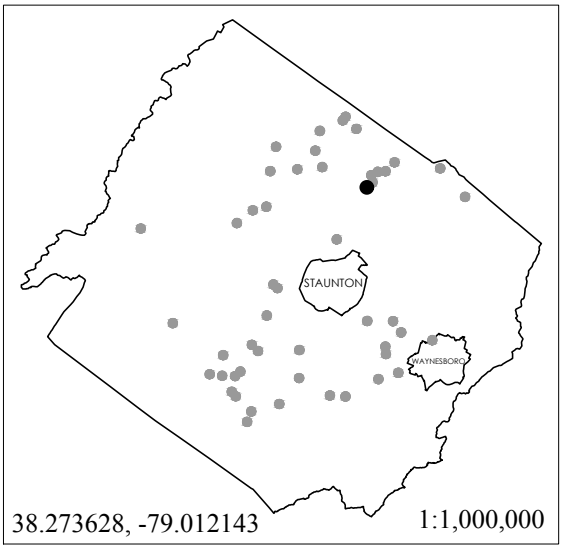
Bays: 3

Roof Shape: Gable

Nearest gravel wall building: Gasque House (AU7) - 0.6 miles


Photo: Author, 2017

The Cox House is a gravel wall house located near the community of Roman, Virginia. The house has a hipped roof and interior gable-end chimneys. The most noticeable feature on this house is the decorative bargeboard, which is strikingly similar to the May House (AU14) and the Elias Kindig House (AU43). Other notable features are the combination of dentils and brackets on the cornice and the Greek Revival entrance. The house is located in a high concentration of gravel wall buildings in and around the Roman community.



AU8 (Cox House)

SURVEYED
10/7/2017

EXTERIOR

Foundation:
Continuous, fieldstone, visible above grade

Exterior finish:
Stucco, unscored

Porch:
One-story, above grade (accessible by steps) with four square columns across the front and two pilasters at intersection with house. Denticulated cornice. Sawn balusters.

Windows:
Replacement 6-over-6 double-hung sash.

Front Door:
Plain, four raised panels. Box lock, no evidence of hardware replacement. Sidelights and transom surround door.

Chimneys:
2 brick (stuccoed), identical, with corbelled course near top.

Eaves:
Wood, with dentils and paired brackets at corners and over windows.

Roof:
Gable, standing seam metal roof

Additions:
Hyphen (between I-house and kitchen house), rear ell. Neither were included in the plan drawings.

Exterior wall thickness:
Not captured

INTERIOR

Interior finish:
Plaster, stenciling (by current owner)

Interior details:
Plain door and window moldings, baseboards. Beaded wainscoting in the dining room

Doors:
Box locks on all doors.

Staircase:
Half-flight, turned newel, sawn balusters.

Floor joist spacing (captured in basement):
Not captured

Interior wall thickness:
Not captured

Interior wall material:
Stud wall (walls on either side of the center hall). Gravel wall in basement underneath wall dividing center hall and dining room.

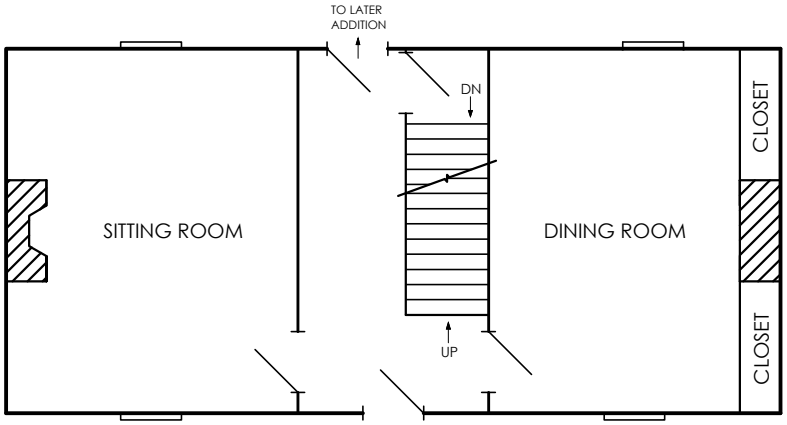
Additions/changes:
Dining room firebox closed in by current owner. Basement finished as a living space. Earlier woodgraining painted over by current owner due to deteriorated condition.

AU8 (Cox House)

SURVEYED
10/7/2017

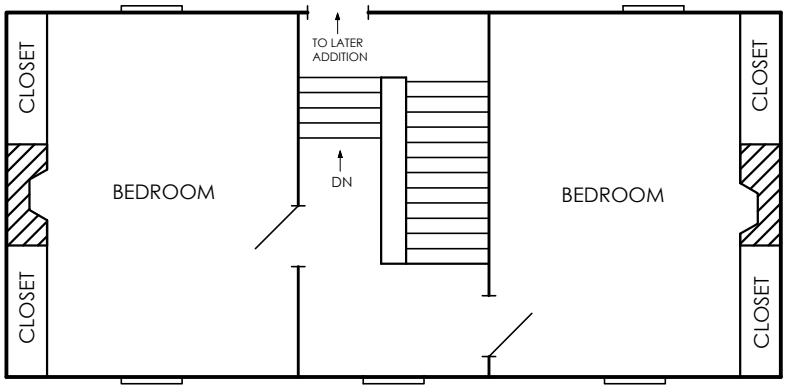
FIRST FLOOR PLAN

(NOT TO SCALE)



SECOND FLOOR PLAN

(NOT TO SCALE)



AU8 (Cox House)

SURVEYED
10/7/2017

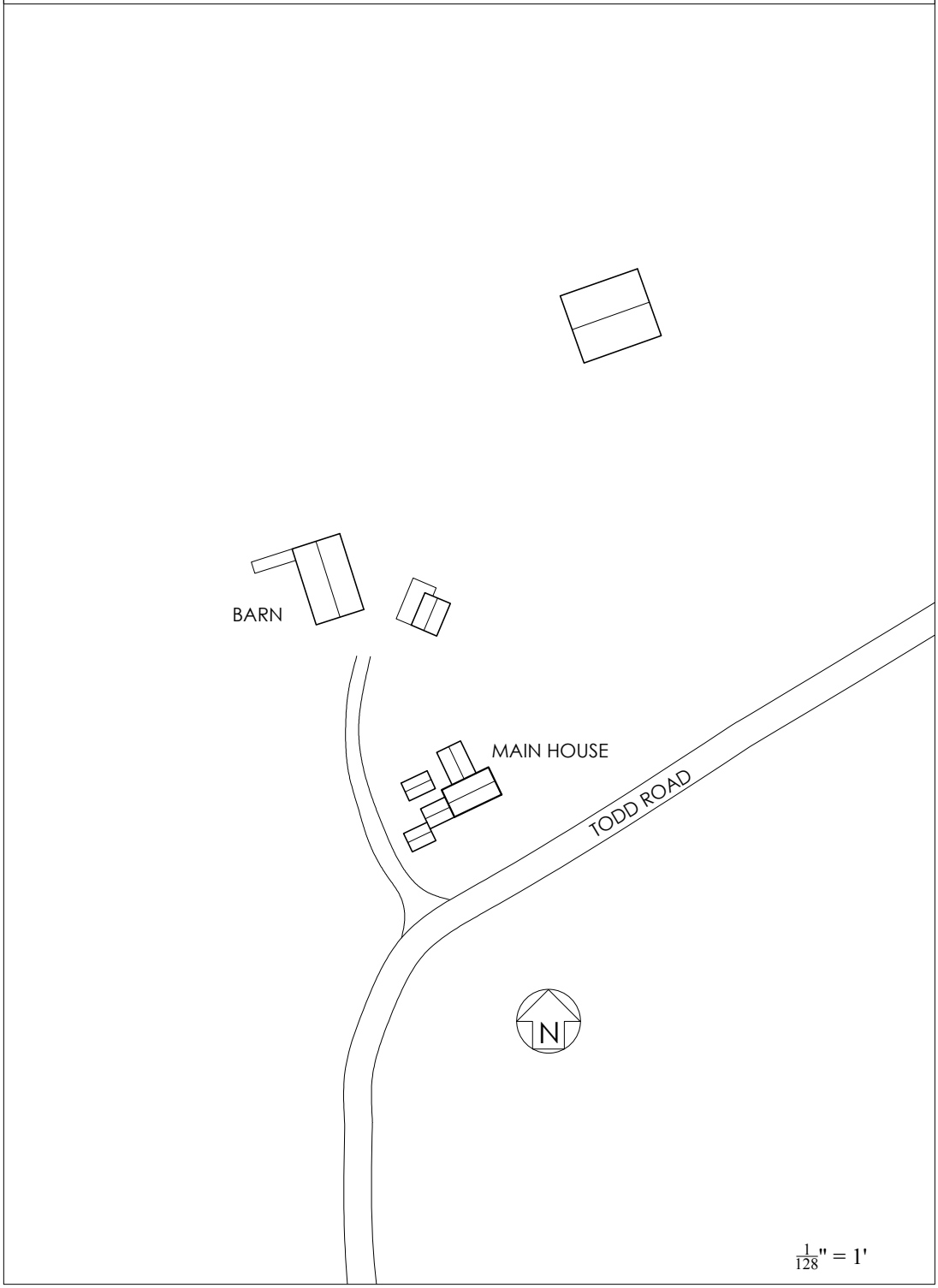


Photo: Front oblique. Author, 2017.

Photo: Front elevation. Author, 2017.

Photo: Eave detail, gable end. Author, 2017.

Photo: Mantel, sitting room. Author, 2017.

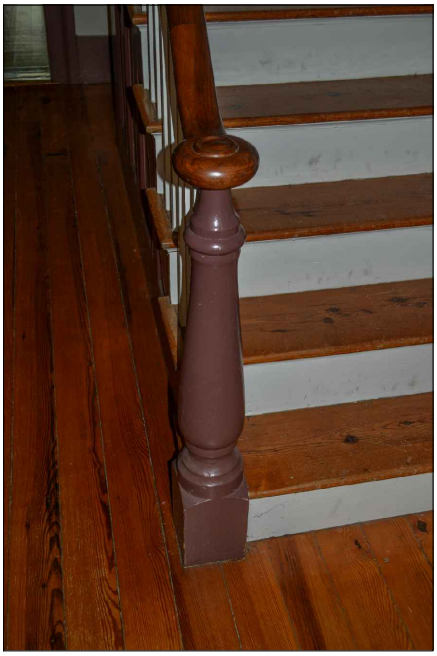


Photo: Newel detail, main stair. Author, 2017.

Photo: Mantel, second floor east bedroom. Author, 2017.

AU9 (Mt. Pleasant Church)

SURVEYED 8/14/2017

DHR# 07-227 (Mennonite Stone Church)

Status: Extant, surveyed
Historic Use: Religious
Current Use: Storage (vacant)

Built: 1860s
Source of date: prior survey

Evidence of Construction: Architectural evidence from site visit, prior survey

Maps:
1864: Not noted
1870: Not noted
1875: Not noted
1885: Mt. Pleasant Mennonite Church

Prior Surveys: Ed Chappell, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), June 1977. K. Gibbs, VHLC, August 1973.

Stories: 1

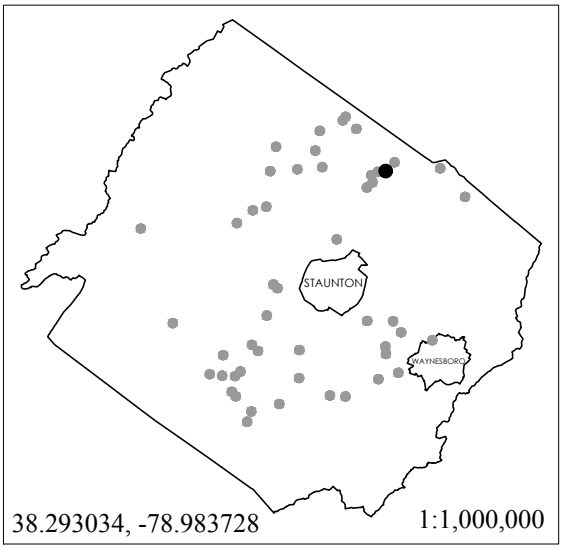
Bays: 2

Roof Shape: Gable

Nearest gravel wall building: Broyles House (AU5) - 0.6 miles

Photo: Author, 2017

The Mt. Pleasant Church is a single-story gravel wall church located near the community of Roman, Virginia. The church is estimated to have been built in the 1860s as Mount Pleasant Mennonite Church. The building has been abandoned for some time, and a hole in the roof has led to accelerated deterioration recently. However, some interior features remain, including windows, doors, wainscoting, and the pulpit. The church is located in dense concentration of gravel wall buildings around the community of Roman.



AU9 (Mt. Pleasant Church)

SURVEYED 8/14/2017

EXTERIOR

Foundation:
Continuous, fieldstone, visible above grade

Exterior finish:
Stucco, unscored

Porch:
None

Windows:
Original 6-over-6 double-hung sash. Some missing.

Front Door:
Plain, two raised panels. Hardware removed.

Chimneys:
None, but stove flue exists on interior ceiling.

Eaves:
Wood, boxed.

Roof:
Gable, standing seam metal roof.

Additions:
None

Exterior wall thickness:
1'-0"

INTERIOR

Interior finish:
Plaster

Interior details:
Plain door and window moldings, wainscoting. Evidence of pew locations exist on wainscoting

Doors:
Two exterior doors deteriorated, hardware removed.

Staircase:
Two steps on either side of the pulpit.

Floor joist spacing (captured in basement):
N/A

Interior wall thickness:
No interior walls.

Interior wall material:
No interior walls.

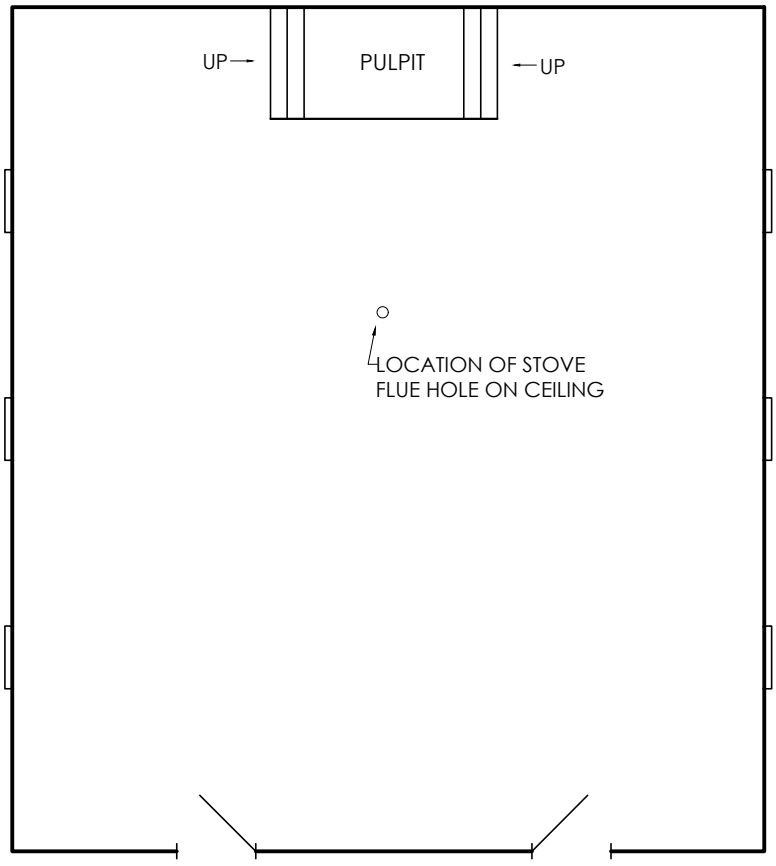
Additions/changes:
Unknown

AU9 (Mt. Pleasant Church)

SURVEYED
8/14/2017

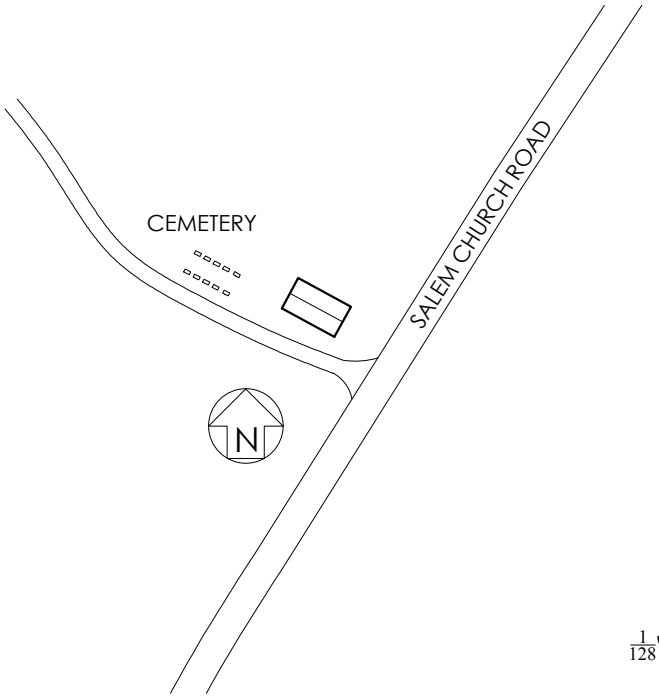
FIRST FLOOR PLAN

(NOT TO SCALE)

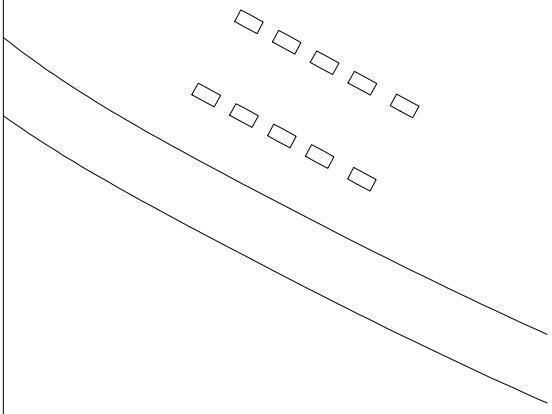


AU9 (Mt. Pleasant Church)

SURVEYED
8/14/2017



$\frac{1}{128}$" = 1'



$\frac{1}{32}$" = 1'

CEMETERY: LIST OF BURIALS

Mary E. Landes
Joseph D. Landes
Joseph Harshbarger
Anna Harshbarger
Lyola Landes
Jacob Landes
Hettie M. Harshbarger
Joseph Harshbarger
Elizabeth Harshbarger
Jacob W. Harshbarger
Ward Yoder

Burials from 1863-1938

AU9 (Mt. Pleasant Church)

SURVEYED
8/14/2017

Photo: Front oblique. Author, 2017.

Photo: Rear elevation and cemetery. Author, 2017.

Photo: Gravel wall detail. Author, 2017.

Photo: Gravel wall once behind wainscoting. Author, 2017.

Photo: Interior space, showing pulpit at front center. Author, 2017.

Photo: Pew supports still visible on wainscoting. Author, 2017.

AU10 (McCorkle Brothers Store)

DHR# 07-680 (McCorkle's Store)

Status: Extant, unsurveyed
Historic Use: Commercial
Current Use: Residential

Built: 1879
Source of date: NR Nomination

Evidence of Construction: Visual, prior surveys, newspaper references (SS 3/12/1890, SSV 9/22/1890)

Maps:
1864: Not included
1870: N/A
1875: N/A
1885: McCorkle Brothers Store

Prior Surveys: Ann McCleary, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), June 1980.

Stories: 1

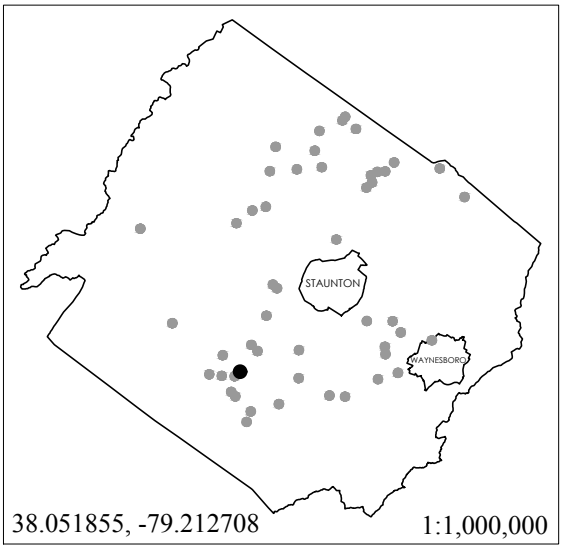
Bays: 3

Roof Shape: Gable

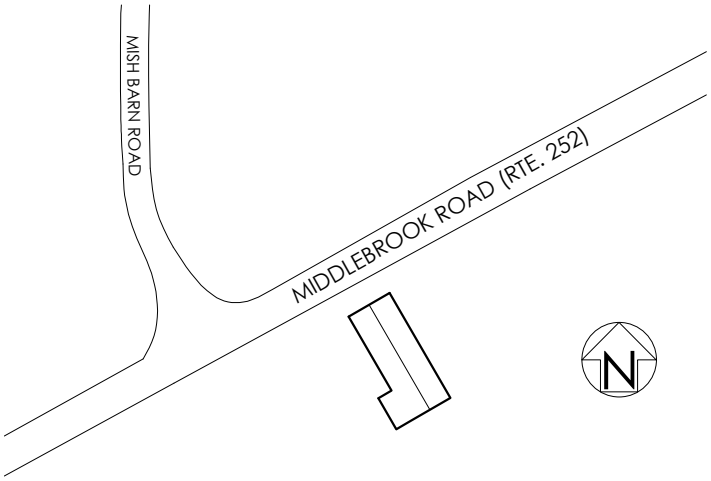
Nearest gravel wall building: Grace Church Parsonage (AU17) - 0.1 miles

Photo: Author, 2017.

The McCorkle Brothers Store is a three-bay, single-story building located in the village of Middlebrook, Virginia. Built in 1879, the building exhibits Italianate influences, most notably in the form of paired brackets along the eaves of the front parapet wall and along each side. The parapet wall, located on the gable end, hides a low-sloped gable roof. The building is covered in a stucco render, which was scored to give the appearance of concrete block or stone, which is a common feature on gravel wall buildings in the Middlebrook area. Known locally as the Middlebrook Cannery, the building has served a number of roles throughout its history.

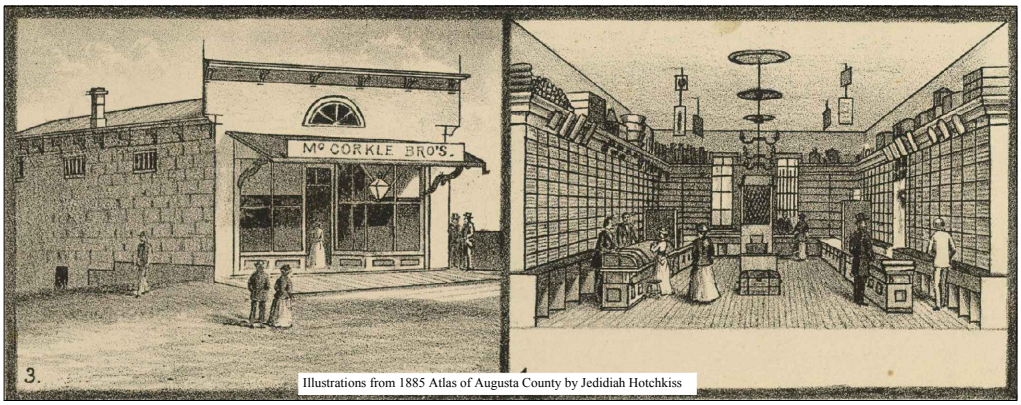


AU10 (McCorkle Brothers Store)



$\frac{1}{128}$" = 1'

Photos: McCleary, 1980.



Illustrations from 1885 Atlas of Augusta County by Jedidiah Hotchkiss

AU11 (Peyton House)

DHR# 07-829 (W.H. Peyton House)

Status: Extant, unsurveyed
Historic Use: Residential
Current Use: Residential

Built: 1882
Source of date: Newspaper references (SS 9/12/1882, SSV 9/29/1882)

Evidence of Construction: Prior surveys, newspaper references

Maps:
1864: Not included
1870: Not noted?
1875: Not noted?
1885: W.H. Peyton

Prior Surveys: Ann McCleary, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), January 1981

Stories: 2

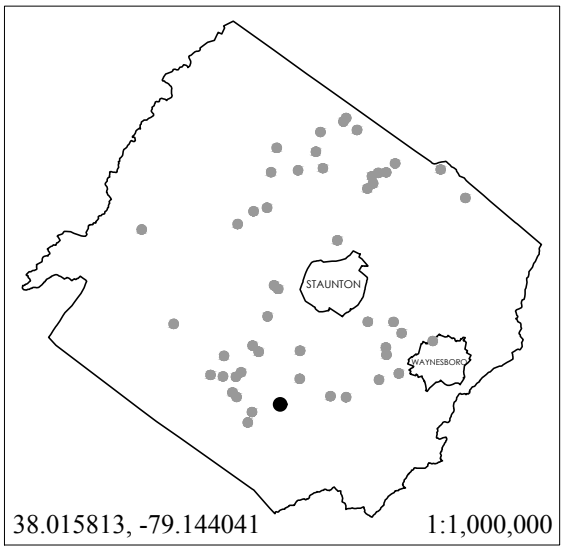
Bays: 3

Roof Shape: Gable

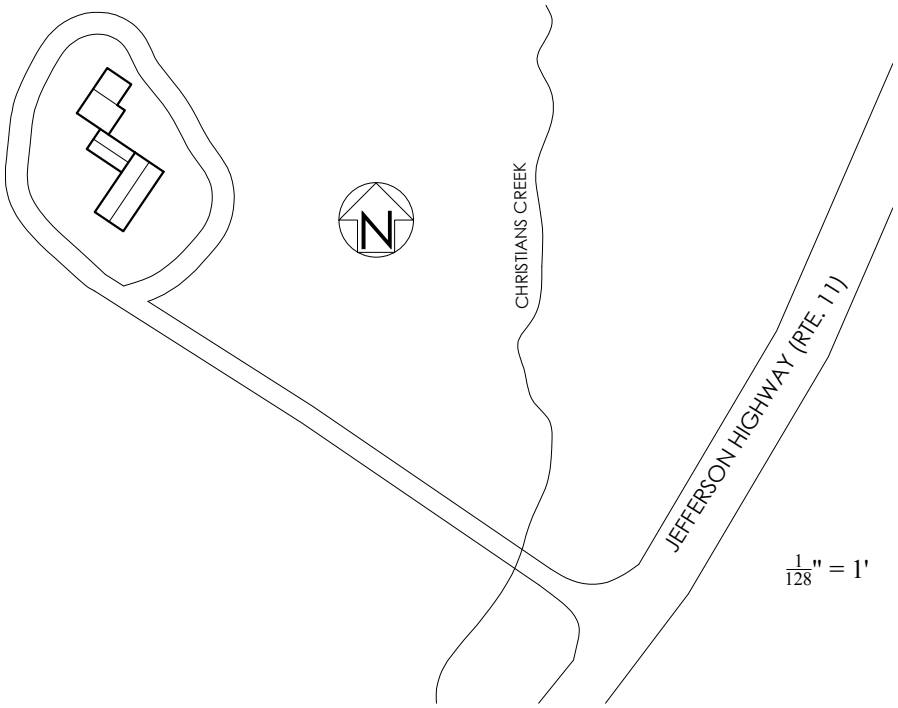
Nearest gravel wall building: McGuffin House (AU24) - 2.4 miles

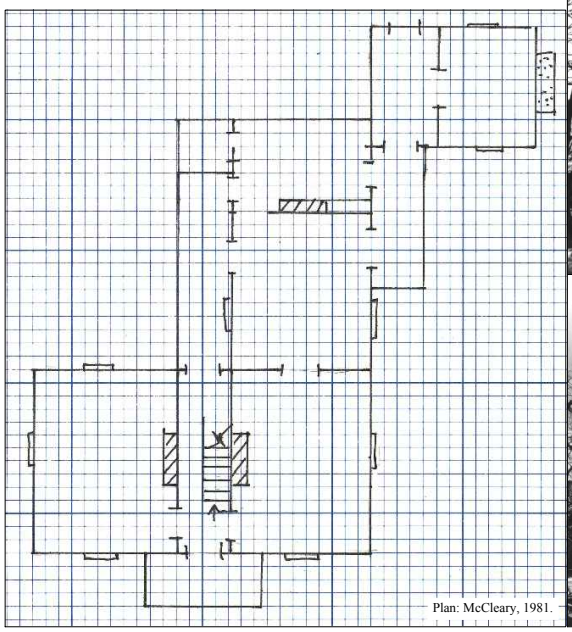

Photo: McCleary, 1981.

The Peyton House is a three-bay, two-story building located near the village of Greenville, Virginia. Built in 1882 by William H. Peterson, the building is a late example of Gothic Revival architecture in Augusta County. Ann McCleary notes that the house's "sawn balusters and Italianate entry framed by frosted glass with diamond patterns are particularly decorative features for this area." While the Gothic stylistic elements are considered late, the paired interior chimneys, front cross gable, and Italianate brackets are consistent with local architectural trends during the 1880s. Rear additions are also constructed of gravel wall material.



AU11 (Peyton House)





Plan: McCleary, 1981.

Photos: McCleary, 1981.

AU12 (Tourje House)

SURVEYED 8/14/2017

DHR# 07-415 (Pebble Hall Farm)

Status: Extant, surveyed
Historic Use: Residential
Current Use: Residential

Built: 1873
Source of date: Inscription on column

Evidence of Construction: Architectural evidence from site visit, prior survey

Maps:
1864: Not noted
1870: S. Crickenbarger
1875: Not noted
1885: S. Crickenbarger

Prior Surveys: Ann McCleary, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), September 1978.

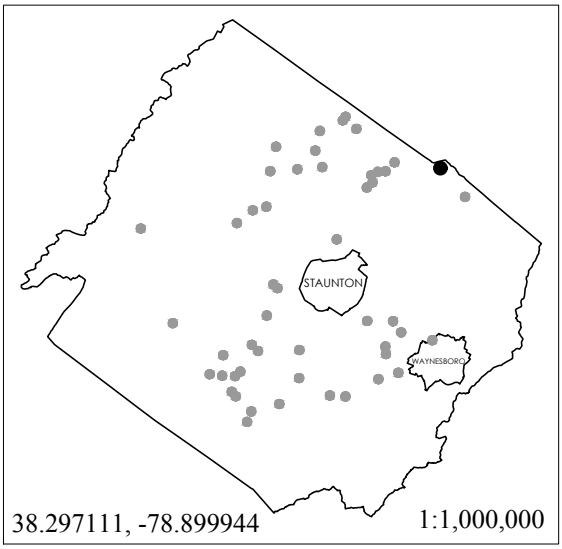
Stories: 2

Bays: 3

Roof Shape: Hipped

Nearest gravel wall building: Craushorn House (AU48) - 3.8 miles

The Tourje House is a gravel wall house located near the village of Weyers Cave, Virginia. An inscription on a porch column, revealed when paint was removed, bears the date 1873, presumed to be the date of construction. An 1873 date is consistent with architectural details of the house, namely the hipped roof, Italianate brackets and entrance, and interior end chimneys. The house was an addition onto an older, still extant log house. This trend was common among gravel wall houses, and was seen at the George Ramsey House (AU29) and the McClung House (AU22).



AU12 (Tourje House)

SURVEYED 8/14/2017

EXTERIOR

Foundation:
Continuous, fieldstone, partially visible above grade

Exterior finish:
Stucco, unscored

Porch:
One-story, above grade (accessible by steps) with four square columns across the front, two pilasters at intersection with facade. Single brackets above each column, with decorative carving in the eave.

Windows:
Original 6-over-6 double-hung sash.

Front Door:
Plain, four raised panels with decorative carved panel detail. Box lock. Paired brackets over door, sidelights and transom surround door.

Chimneys:
3 brick (all re-built by previous owner). 2 with corbelled detail at top in I-house portion, 1 detached in original log portion with identical detail at top.

Eaves:
Wood, with carved detail also found on porch eave and on interior mantel. Paired brackets at corners and over window openings.

Roof:
Hipped, standing seam metal roof.

Additions:
None

Exterior wall thickness:
Not captured.

INTERIOR

Interior finish:
Plaster, modern decorative paint, wallpaper

Interior details:
Half-crosette door and window trim on first floor, baseboards, and wainscoting.

Doors:
Two-paneled (raised), box locks.

Staircase:
Half-flight with landing, turned newel, square balusters.

Floor joist spacing (captured in basement):
Not captured

Interior wall thickness:
Not captured

Interior wall material:
Gravel wall (wall between southern room and center hall), stud wall (wall between northern room and center hall).

Additions/changes:
None

*The above description only pertains to the front, gravel wall, I-house portion of the house

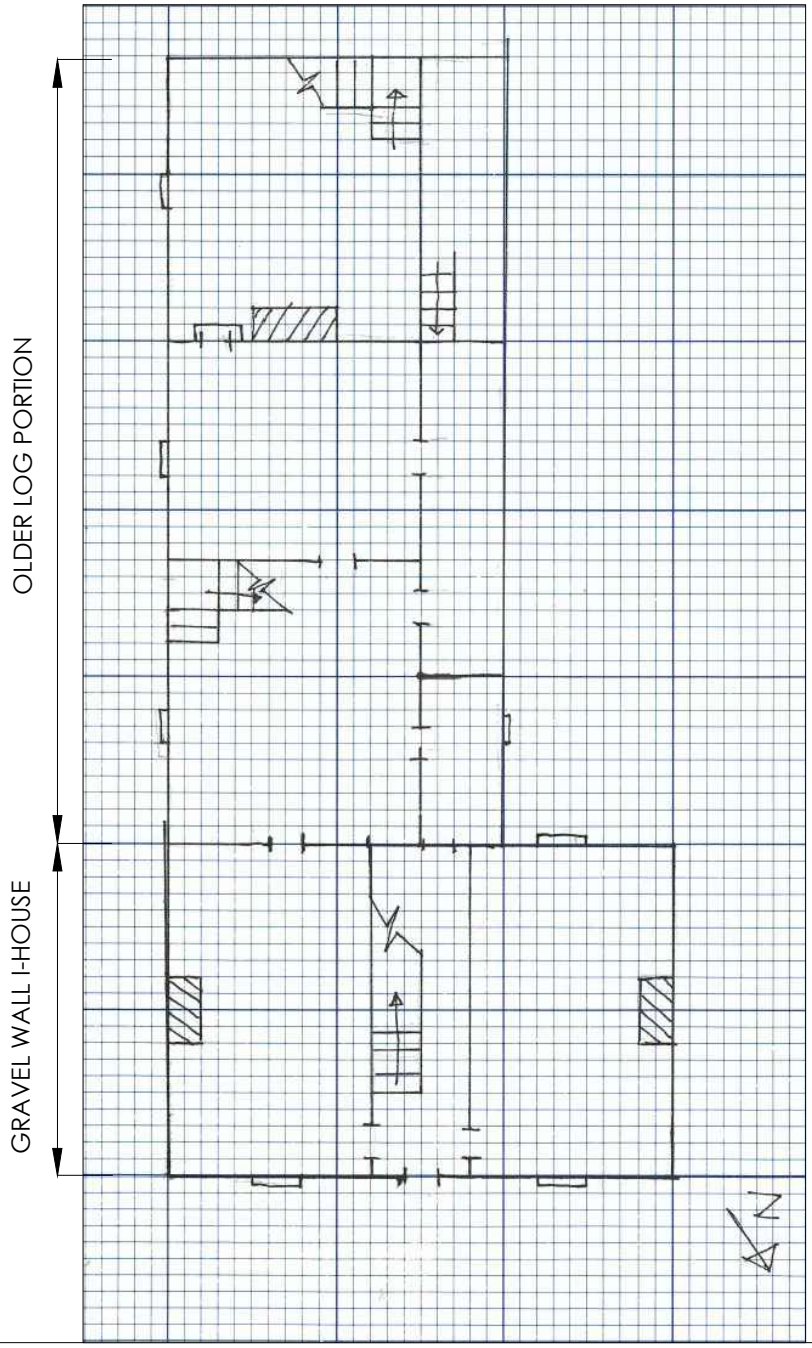
AU12 (Tourje House)

SURVEYED
8/14/2017

FIRST FLOOR PLAN

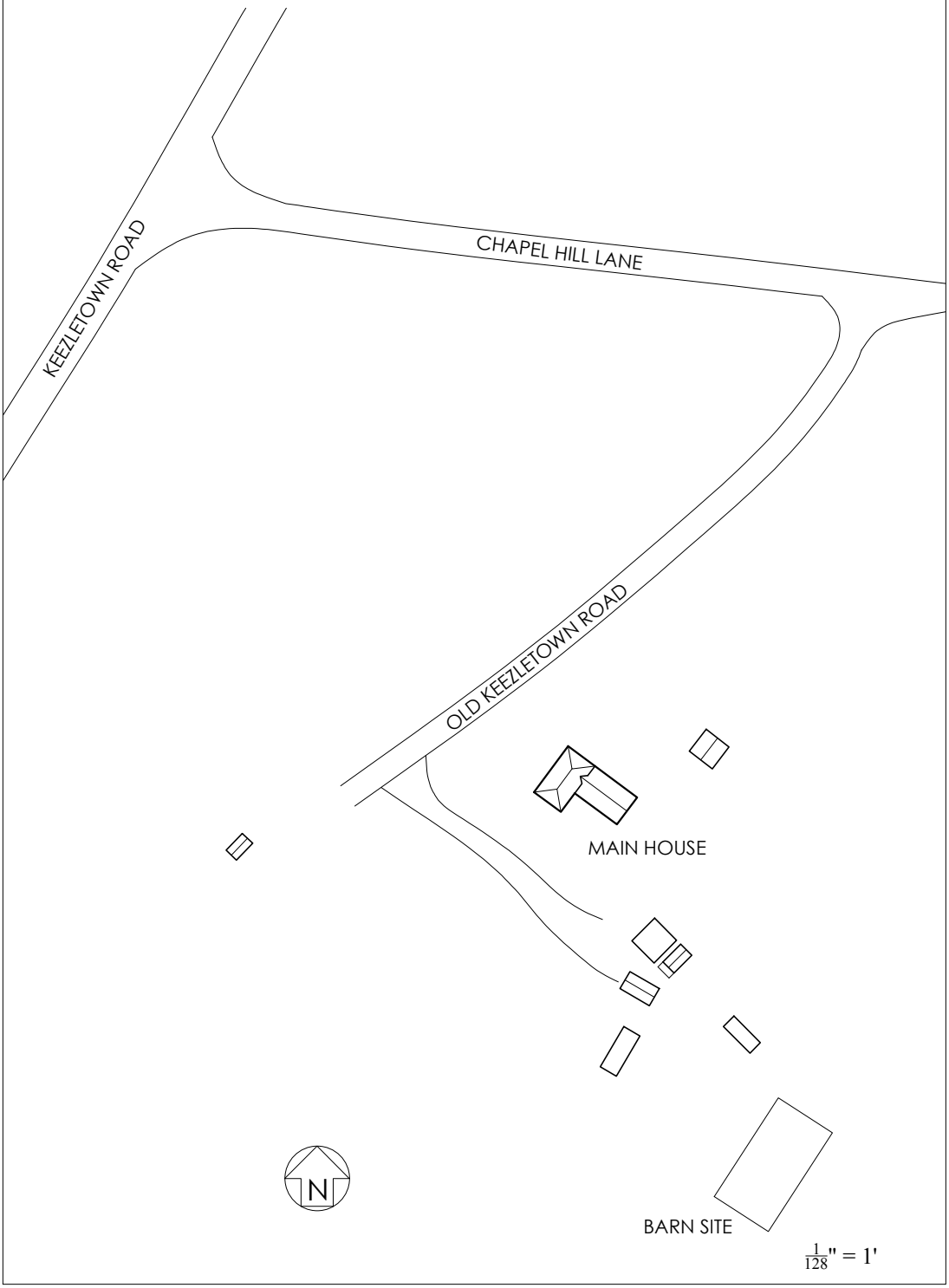
(NOT TO SCALE)

(MCCLEARY, 1978)



AU12 (Tourje House)

SURVEYED
8/14/2017



AU12 (Tourje House)

SURVEYED
8/14/2017

Photo: Front elevation. Author, 2017.

Photo: Original log house, showing front I-house. Author, 2017.

Photo: Porch eave detail. Author, 2017.

Photo: First floor, north room mantel. Author, 2017.

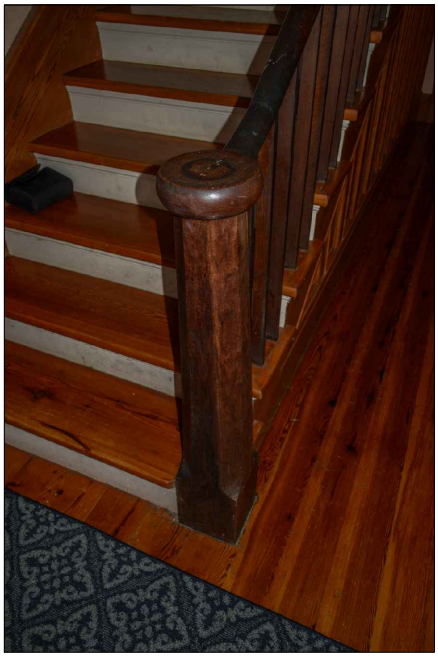


Photo: Main stair, newel detail. Author, 2017.

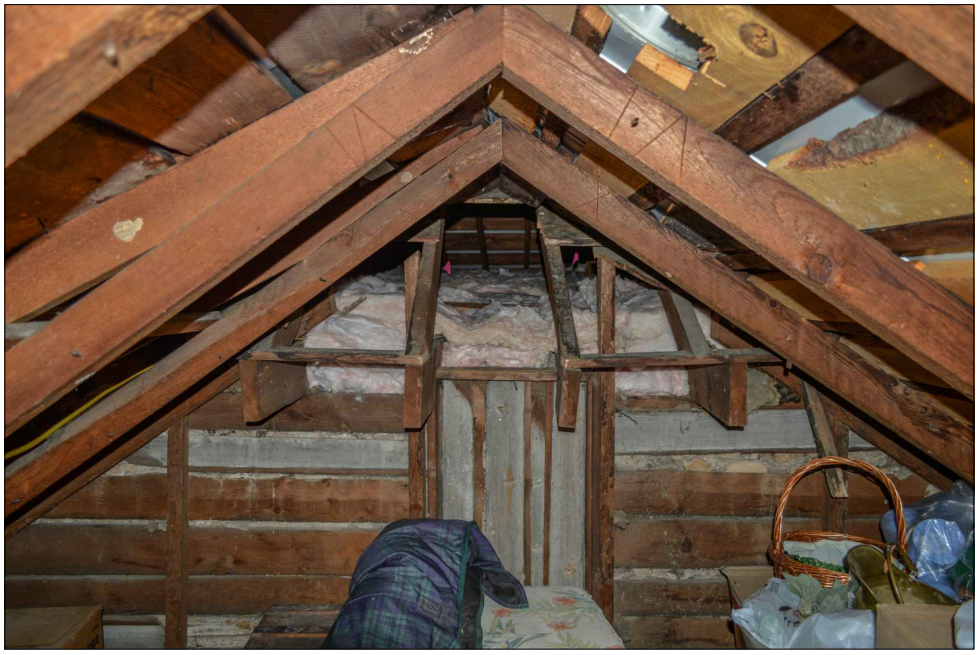


Photo: View from log portion into gravel wall I-house. Author, 2017.

AU13 (Sheets House)

DHR# 07-282 (J.H. Sheets House)

Status: Demolished, unsurveyed
Historic Use: Residential
Current Use: N/A

Built: ca. 1850
Source of date: Prior survey

Evidence of Construction:
Prior survey

Maps:
1864: Not noted
1870: Fawcett
1875: Bovey?
1885: Thos. H. Glendy

Prior Surveys: Ed Chappell, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), December 1976

Stories: 1 (with raised basement)

Bays: 3

Roof Shape: Gable

Nearest gravel wall building:
Hogshead House (AU39) - 2.1 miles

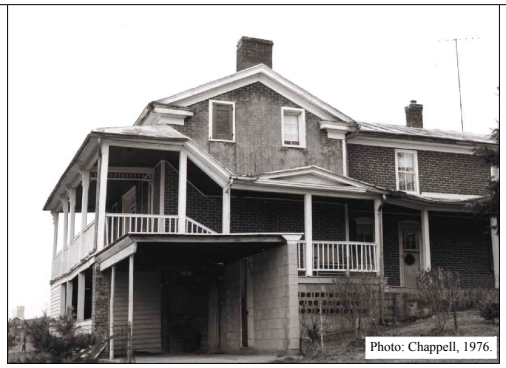
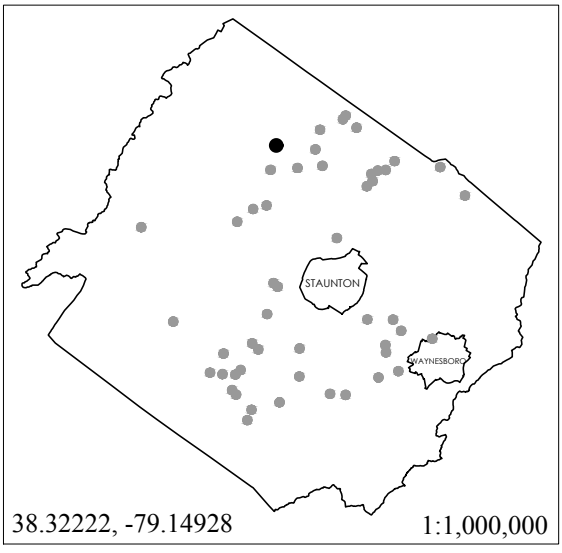
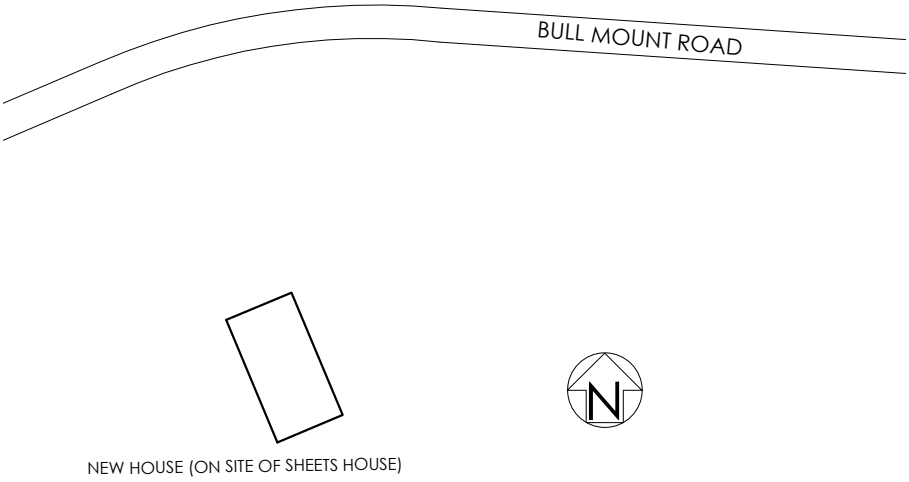


Photo: Chappell, 1976.

The Sheets House was a three-bay, raised one-story building located near the community of Stribling Springs, Virginia. Built ca. 1850, the building was constructed using the gravel wall plan, but unlike other examples in the county, the stucco render was washed red with penciled white lines to mimic brick. The house was an addition to an earlier, two-story brick house, which perhaps explains the painted stucco mimicking brick. The interior was never inspected. The house was razed between 2000 and 2003 to make way for a new house, constructed on the original house site.



AU13 (Sheets House)



$\frac{1}{128}$" = 1'

Photos: Chappell, 1976.

AU14 (May House)

DHR# 07-303 (E.E. May House)

Status: Extant, unsurveyed
Historic Use: Residential
Current Use: Residential

Built: ca. 1875
Source of date: Prior survey

Evidence of Construction:
Prior survey

Maps:
1864: N/A
1870: N/A
1875: N/A
1885: N/A

Prior Surveys: Ed Chappell, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), November 1976. J.W. Apperson, Historical Inventory Project (AU440), WPA, January 1938.

Stories: 2

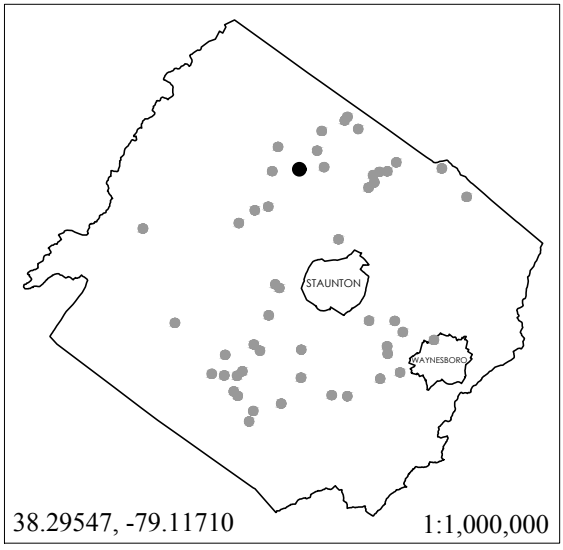
Bays: 3

Roof Shape: Gable

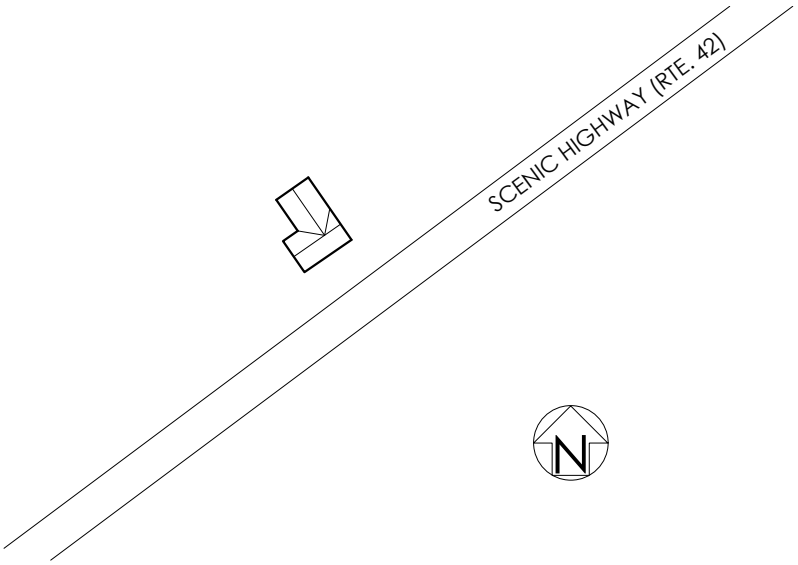
Nearest gravel wall building:
Maple Shade (AU20) - 2.0 miles


Photo: Google Streeview, 2012

The May House is a three-bay, two-story building located in the village of Parnassus, Virginia. Built ca. 1875, the building has Italianate features such as paired brackets and a Gothic Revival bargeboard. These two details closely resemble similar details at the Cox House (AU8). The partially-exterior gable end chimneys and paired attic lights are unusual among gravel wall examples in the county. A later frame, two-story ell was added onto the rear of the building.



AU14 (May House)



$\frac{1}{128}$" = 1'


Photo: K. Houston, 1997. Courtesy of VDHR.


Photo: Apperson, 1938.

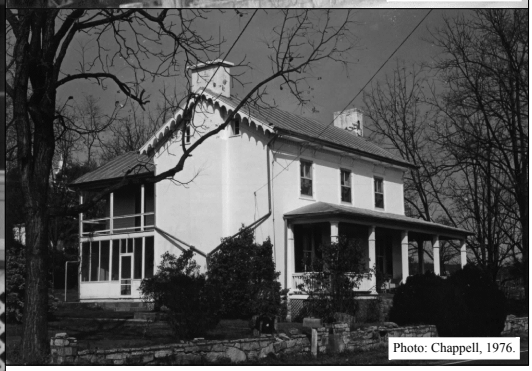


Photo: Chappell, 1976.

AU15 (Palmer House)

SURVEYED 12/18/2017

DHR# associated with 07-568 (Charles Palmer House)

Status: Extant, exterior surveyed
Historic Use: Residential
Current Use: Residential

Built: ca. 1889
Source of date: Prior survey

Evidence of Construction: Architectural evidence from site visit, prior survey

Maps:
1864: Not included
1870: Noted (unnamed)
1875: McCutcheon
1885: C.T. Palmer's

Prior Surveys: Ann McCleary, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), August 1979.

Stories: 2

Bays: 3

Roof Shape: Hipped

Nearest gravel wall building: Eavers House (AU3) - 1.0 miles

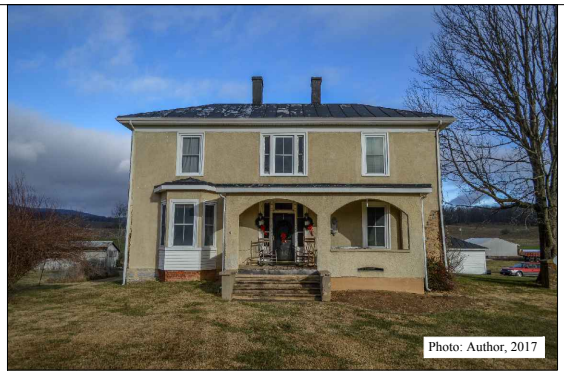
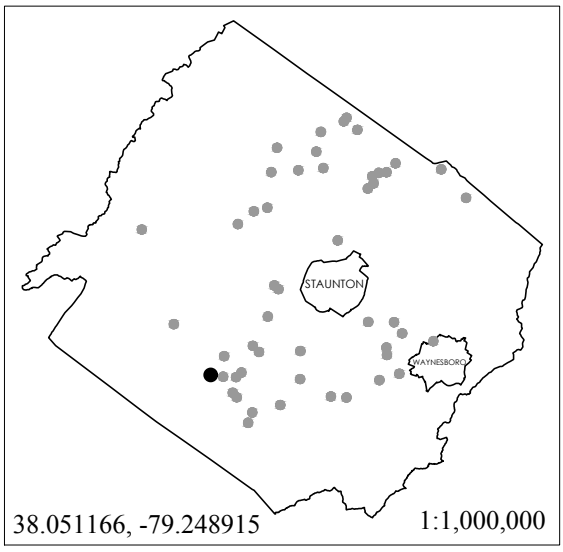


Photo: Author, 2017

The Palmer House is a gravel wall house located near the village of Middlebrook, Virginia. The house has a hipped roof and chimneys on the interior passage walls. According to McCleary, the house was built ca. 1889 by Newton Baylor (who also had AU1 built). The house has an integral ell, a feature common for this time period and location (AU1, AU3, AU4 all have integral ells). The porch and closed-in porch off the ell appear to be later additions. The house is largely bereft of exterior ornament. A stucco sample taken from the house appears to indicate that hydraulic cement was used as a binder instead of lime.



AU15 (Palmer House)

SURVEYED
12/18/2017

EXTERIOR

Foundation:
Continuous, fieldstone, visible above grade

Exterior finish:
Stucco, unscored (replacement)

Porch:
One-story, above grade (accessible by steps) with three square columns across the front and two pilasters at intersection with house that create openings that are arched. No balusters. Replacement porch.

Windows:
Replacement 2-over-2 double-hung sash.

Front Door:
Decorative, four octagonal panels, with original doorbell. Paired Italianate brackets over door, sidelights and transom surround door. Identical to AU1, AU3

Chimneys:
2 brick (painted), identical, with corbelled course at top.

Eaves:
Wood, plain.

Roof:
Hipped, standing seam metal roof

Additions:
Closed-in porch off ell

Exterior wall thickness:
Not captured


Photo: Author, 2017


Photo: Author, 2017

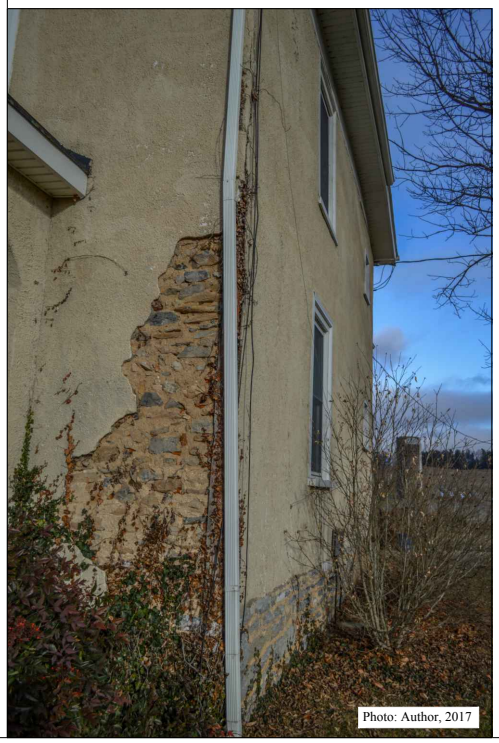


Photo: Author, 2017

AU15 (Palmer House)

SURVEYED
12/18/2017

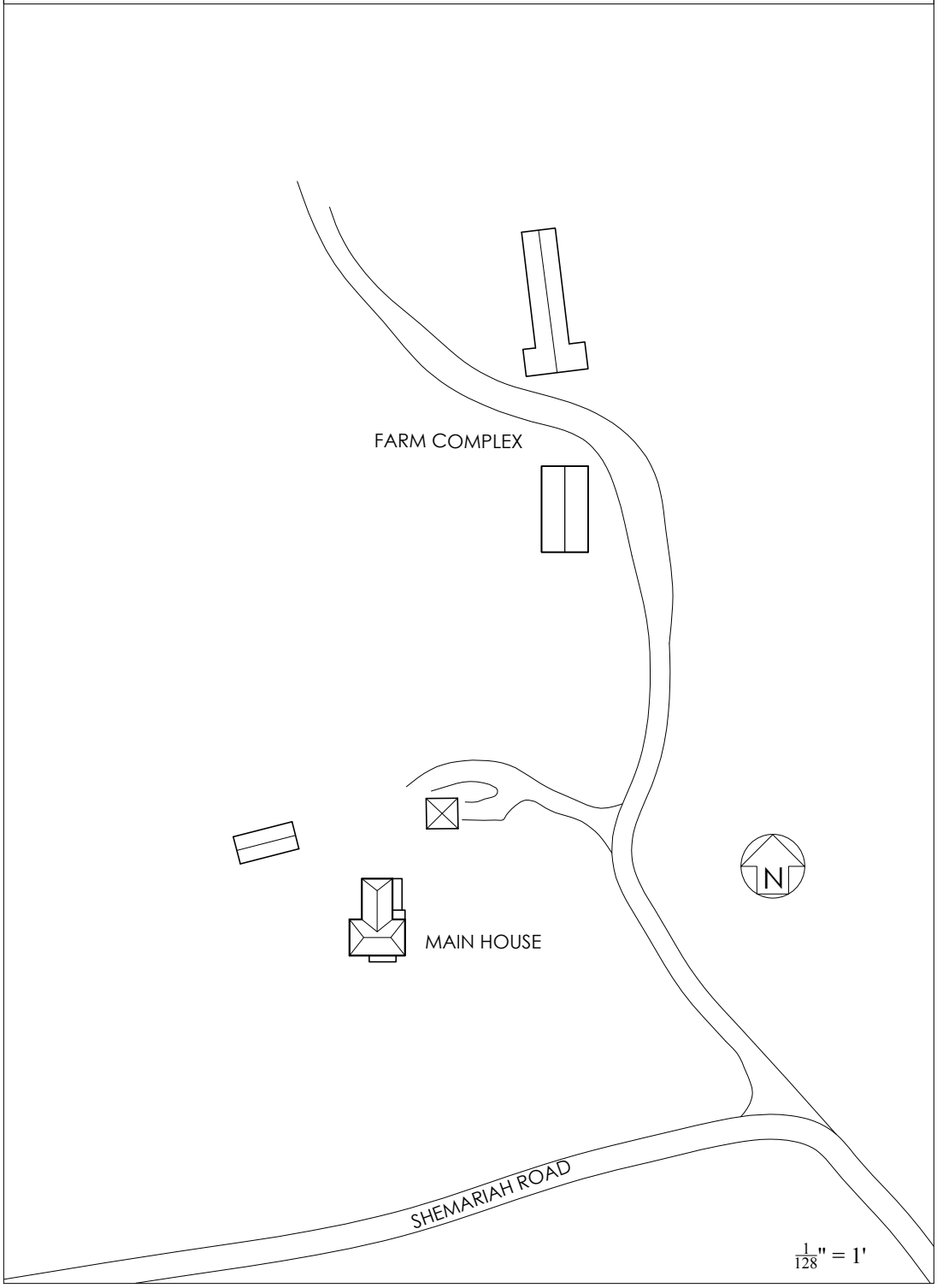


Photo: Side elevation. Author, 2017.

Photo: Rear elevation. Author, 2017.

Photo: Rear oblique. Author, 2017.

Photo: Gravel wall detail, front elevation. Author, 2017.

AU16 (Garrison House)

SURVEYED 8/10/2017

DHR# 07-5701

Status: Extant, exterior surveyed
Historic Use: Residential
Current Use: Residential

Built: 1879
Source of date: Newspaper reference

Evidence of Construction: Architectural evidence from site visit, newspaper reference

Maps:
1864: Not included
1870: Stover?
1875: Stover?
1885: J.S. Garrison

Prior Surveys: Jana Bean, Virginia Virginia Department of Transportation, November 2016.

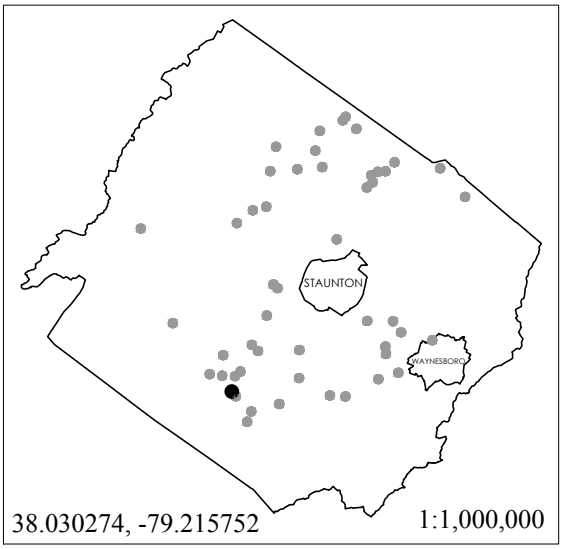
Stories: 2

Bays: 3

Roof Shape: Gable

Nearest gravel wall building: Garrison Tenant House (AU47) - 0.1 miles

The Garrison House is a gravel wall house located near the village of Middlebrook, Virginia. The house has a gable roof and interior gable end chimneys. A newspaper article noted that the house was built by William H. Peterson for J.S. Garrison in 1879. Garrison also had a tenant house built of gravel wall, likely at a similar date. The house has an integral gravel wall ell, much like AU1, AU3, and AU15, among others. Also like AU1, AU2, and AU3 (among others), the exterior stucco render was scored to imitate stone block.



AU16 (Garrison House)

SURVEYED
8/10/2017

EXTERIOR

Foundation:
Continuous, fieldstone, visible above grade

Exterior finish:
Stucco, scored

Porch:
One-story, slightly above grade with four square columns across the front. No balusters. Hipped roof.

Windows:
Replacement 2-over-2 double-hung sash.

Front Door:
Four raised panels. Sidelights and transom surround door.

Chimneys:
3 brick (2 in front I-house, 1 in ell), identical, with corbelled detail at top.

Eaves:
Wood, plain.

Roof:
Gable, standing seam metal roof

Additions:
Small vinyl-sided addition on west elevation

Exterior wall thickness:
Not captured


Photo: Bean, 2016.


Photo: Author, 2017

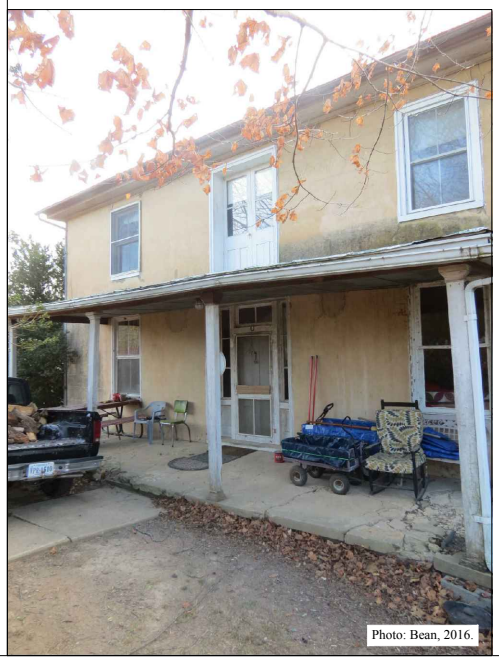
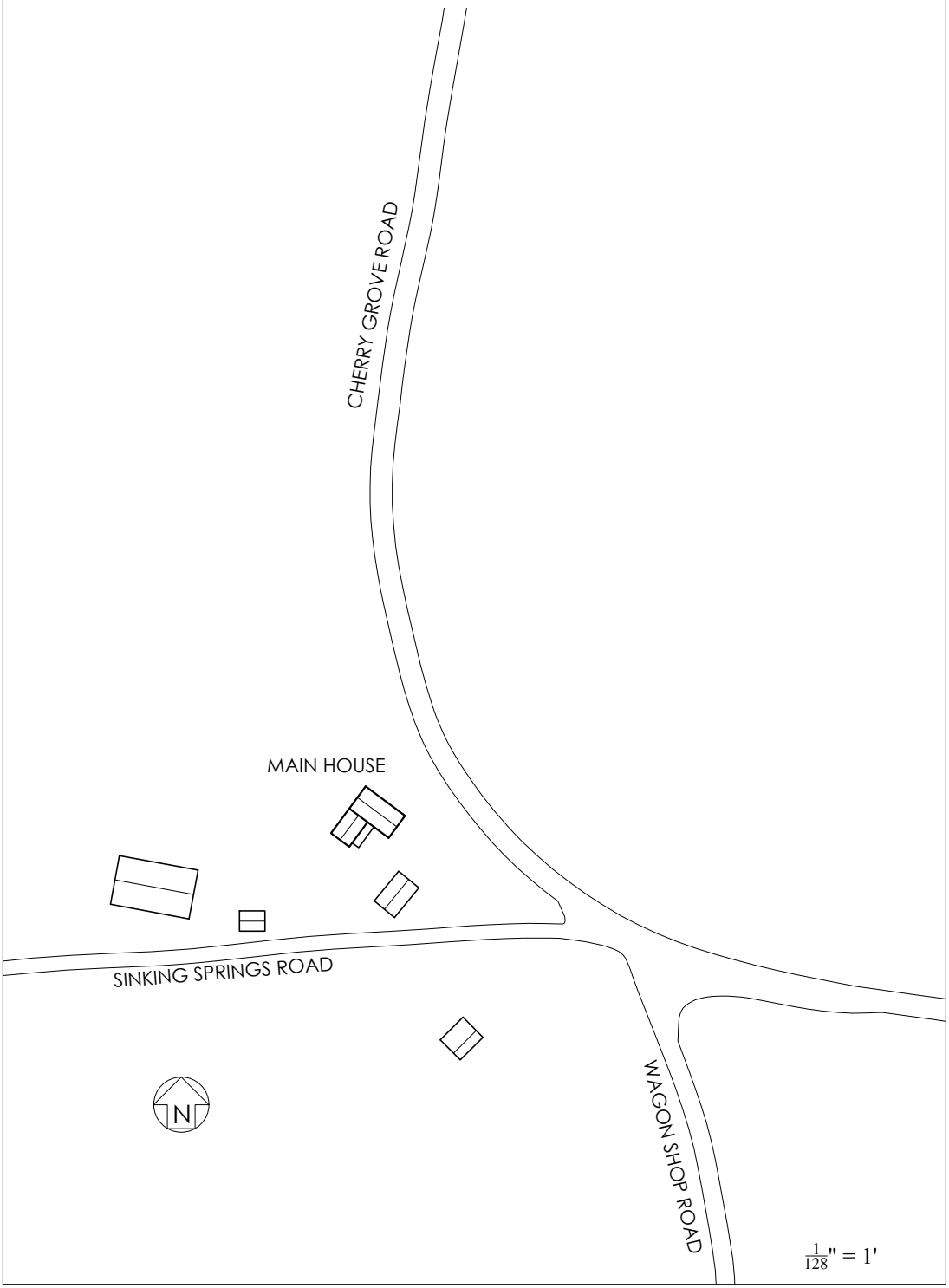


Photo: Bean, 2016.

AU16 (Garrison House)

SURVEYED
8/10/2017



AU16 (Garrison House)

SURVEYED
8/10/2017

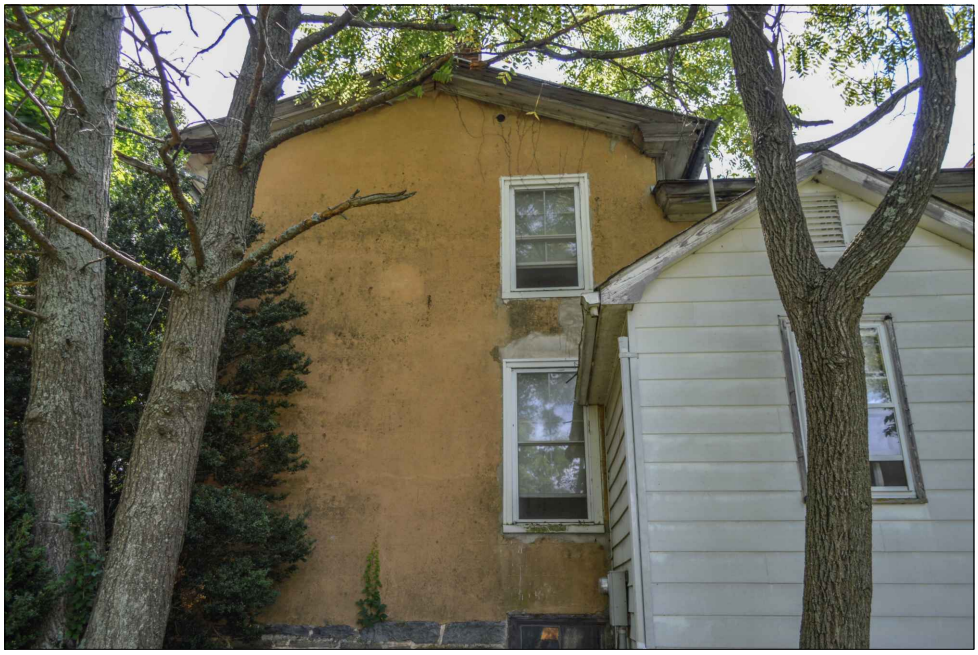


Photo: West elevation. Author, 2017.

Photo: Front entrance. Author, 2017.

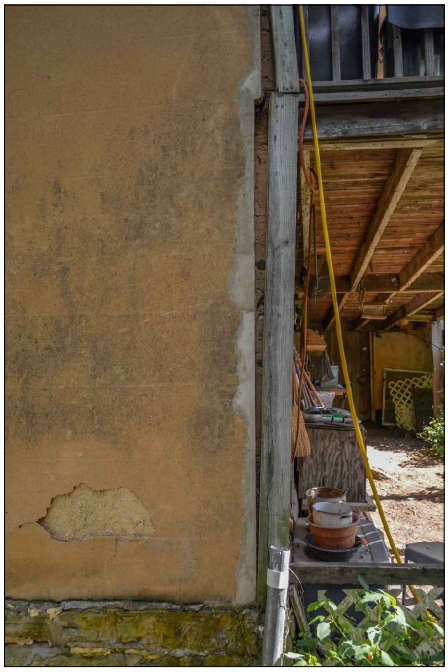


Photo: Rear ell corner detail. Author, 2017.

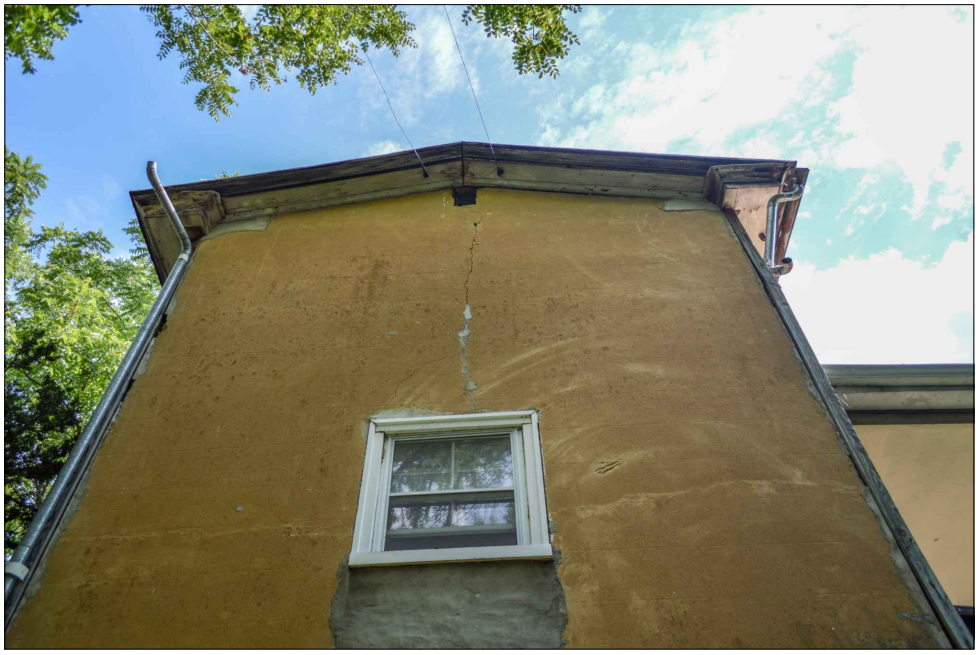


Photo: Rear ell, south elevation. Author, 2017.

AU17 (Grace Church Parsonage)

SURVEYED 10/7/2017

DHR# 07-236-43 (Grace Church Parsonage)

Status: Extant, surveyed
Historic Use: Residential
Current Use: Residential

Built: ca. 1885
Source of date: Newspaper reference (GB 8/20/1884, GB 1/7/1885)

Evidence of Construction: Architectural evidence from site visit, newspaper reference, prior survey

Maps:
1864: Not included
1870: N/A
1875: N/A
1885: Grace Church Parsonage

Prior Surveys: Ann McCleary, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), December 1980.

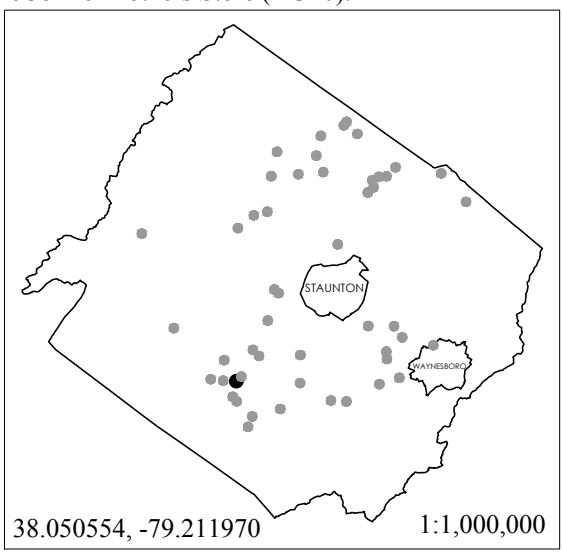
Stories: 2

Bays: 3

Roof Shape: Hipped

Nearest gravel wall building: McCorkle Brothers Store (AU10) - 0.1 miles

The Grace Church Parsonage is a gravel wall house located in the village of Middlebrook, Virginia. The house follows an irregular plan, which is loosely a variant of an I-house. Built ca. 1885 as the parsonage for Grace Church, the gravel wall house is the only house surveyed that doesn't follow a largely symmetrical plan. The house has a hipped roof and an Italianate-style entrance. The interior has elements consistent with other gravel wall houses, such as the turned balusters, which match those at the Sensabaugh House and the Hamilton House. Located in a concentration of gravel wall buildings in the Middlebrook area, the house is in clear sight of the McCorkle Brothers Store (AU10).



AU17 (Grace Church Parsonage) SURVEYED 10/7/2017

EXTERIOR

Foundation:
Continuous, fieldstone, visible above grade

Exterior finish:
Stucco, scored

Porch:
One-story, above grade (accessible by steps) with three tuscan columns across the front and two tuscan pilasters at intersection with the house. Square balusters. Sawn detail at cornice.

Windows:
Replacement 2-over-2 double-hung sash.

Front Door:
Two raised panels at bottom, single window pane at top. Box lock, original doorbell (similar to AU1). Sidelights and transom surround door with brackets.

Chimneys:
1 brick, 1 CMU.

Eaves:
Wood. Paired brackets over openings and at corners.

Roof:
Hipped with low pitch, standing seam metal roof

Additions:
Closed-in porch on east elevation.

Exterior wall thickness:
11-5/8"

INTERIOR

Interior finish:
Plaster, sheet rock

Interior details:
Half-crosettes over main entrance, window and doors. Baseboards.

Doors:
Box locks on all doors.

Staircase:
Full-flight, turned newel, balusters identical to other houses in the area (AU1, AU3, AU4).

Floor joist spacing (captured in basement):
Puncheon floor joists, spacing not captured.

Interior wall thickness:
4-1/4"

Interior wall material:
Stud wall (stair hall walls), Gravel wall (all other walls)

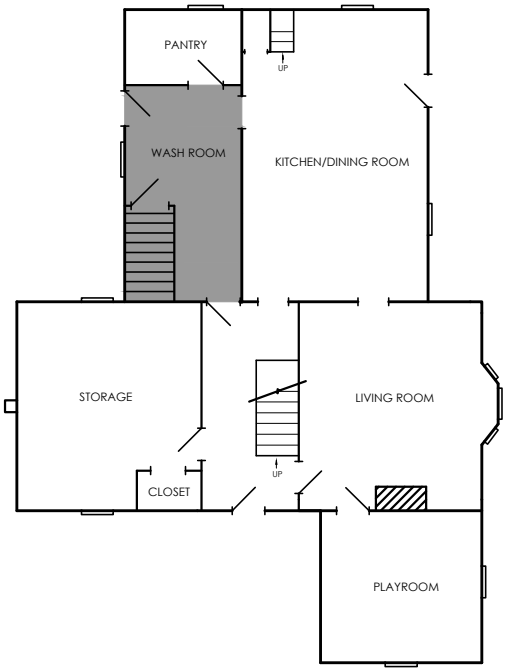
Additions/changes:
Renovations underway on second floor southern-most room. Wall and chimney dividing kitchen and dining room removed.

AU17 (Grace Church Parsonage) SURVEYED 10/7/2017

FIRST FLOOR PLAN

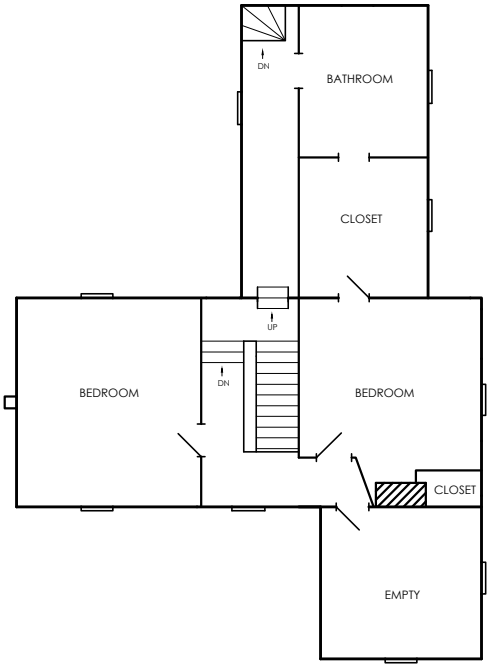
(NOT TO SCALE)

SHADED REGION
DENOTES ADDITIONS



SECOND FLOOR PLAN

(NOT TO SCALE)



AU17 (Grace Church Parsonage)

SURVEYED
10/7/2017

AU17 (Grace Church Parsonage)

SURVEYED
10/7/2017

Photo: Front oblique. Author, 2017.

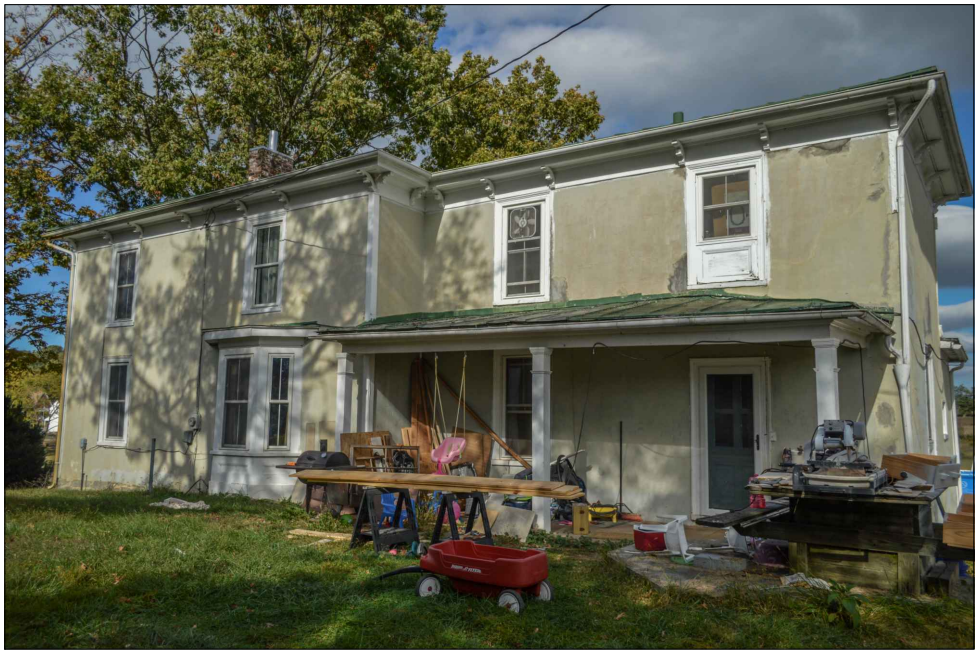


Photo: West elevation. Author, 2017.

Photo: Porch eave detail. Author, 2017.

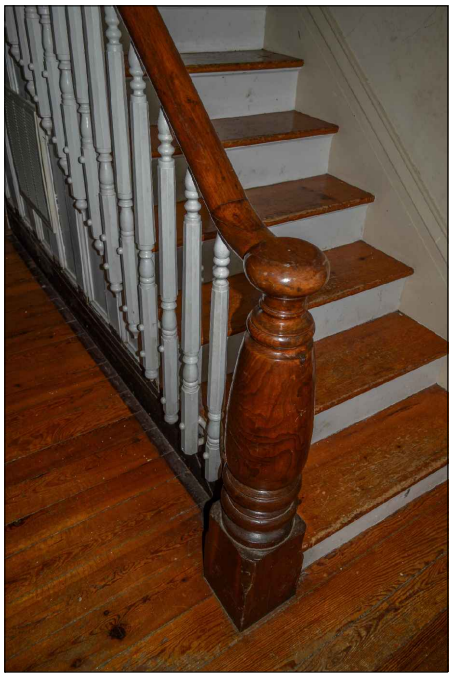


Photo: Main stair. Author, 2017.

Photo: Crosette and transom over center hall doors. Author, 2017.

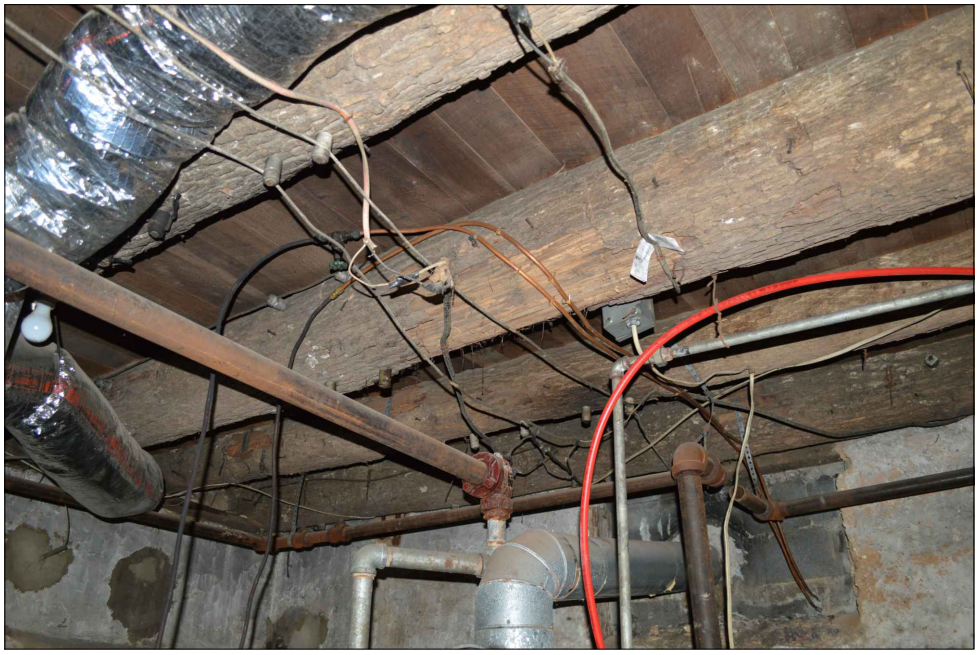


Photo: Puncheon floor joists in basement. Author, 2017.

AU18 (Hunter House)

DHR# 07-5483

Status: Extant, unsurveyed
Historic Use: Residential
Current Use: Abandoned

Built: ca. 1900
Source of date: Prior survey

Evidence of Construction:
Prior survey

Maps:
1864: Not included
1870: Not noted
1875: Not noted
1885: Not noted

Prior Surveys: Stephanie Jacobe, Dovetail CRG, Feb. 2015, Accessible at VDHR

Stories: 2

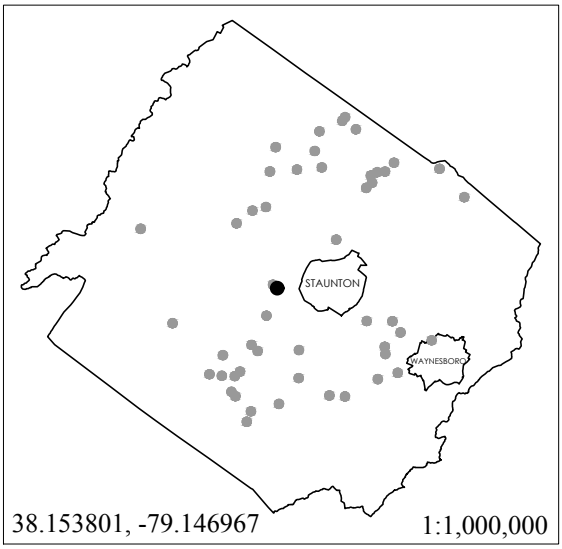
Bays: 3

Roof Shape: Gable

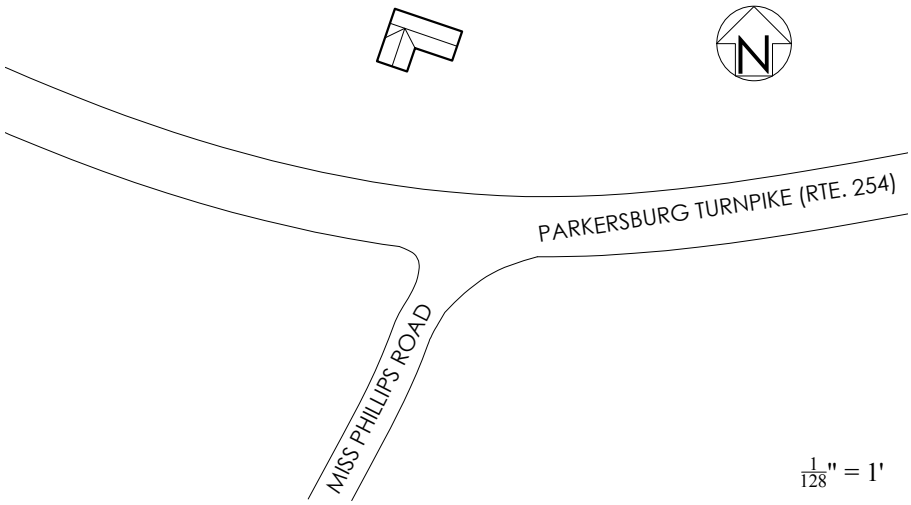
Nearest gravel wall building:
Lightner House (AU44) - 0.5 miles


Photo: Jacobe, 2015

The Hunter House is a three-bay, two-story building located between the city of Staunton and the village of West View, Virginia. Built ca. 1900, the building has a protruding left front bay, similar in appearance to the Grace Church Parsonage (AU17). Built sometime after 1885, the house was likely in the later wave of gravel wall houses built in the county, along with the nearby Lightner House (AU45). The Hunter House represents a shift toward irregular building forms by the turn of the twentieth century. At the time of the study, the house was abandoned, and appeared to have been for some time.



AU18 (Hunter House)



$\frac{1}{128}$" = 1'

Photo: Jacobe, 2015.

Photo: Author, August 2017.

AU19 (Grove House Outbuildings)

DHR# 07-234 (Farm)

Status: Extant, unsurveyed
Historic Use: Outbuildings
Current Use: Abandoned, Storage

Built: ca. 1870
Source of date: Prior survey

Evidence of Construction:
Prior survey

Maps:
1864: Not included
1870: Grove?
1875: Not noted
1885: Jacob George

Prior Surveys: Dell Upton, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), November 1974.

Stories: 2 (kitchen), 1 (shed)

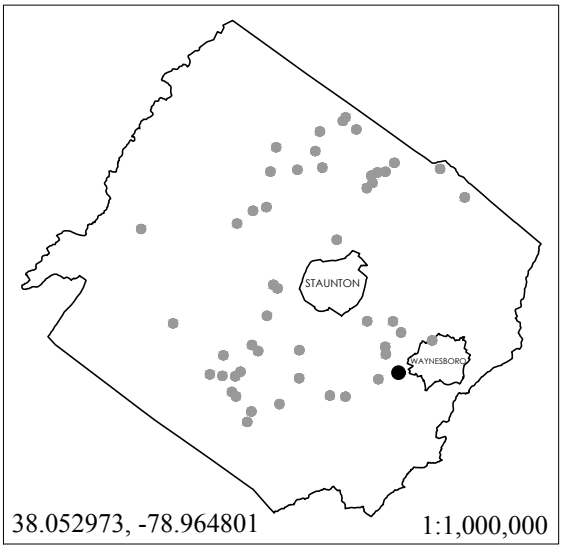
Bays: 2 (kitchen), 2 (shed)

Roof Shape: Gable

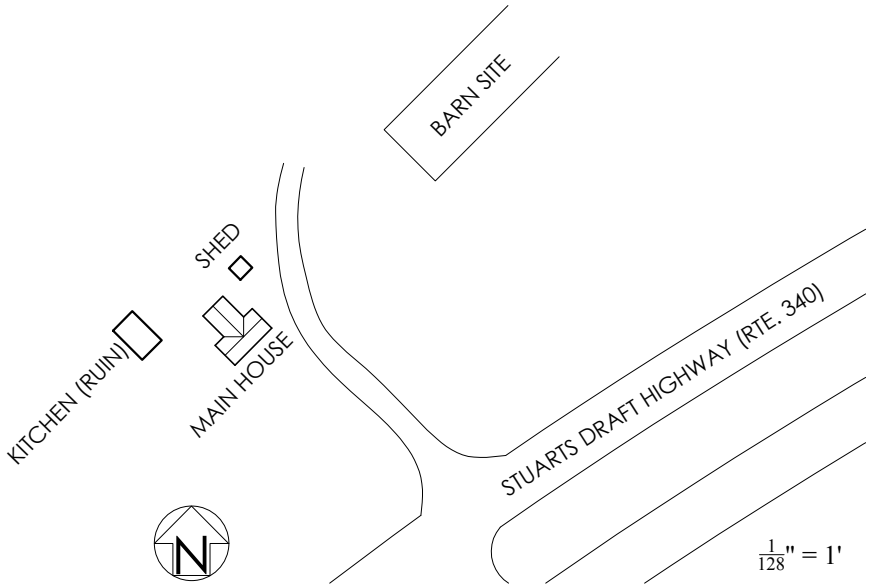
Nearest gravel wall building:
Elias Kindig House (AU43) - 1.7 miles


Photo: Kitchen, Upton, 1974.

Two gravel wall outbuildings associated with the Grove House still stand on Route 340 outside of Stuarts Draft, Virginia. The first is currently in a ruinous state, but was apparently used as a house or a kitchen. The unsymmetrical fenestration could suggest a non-residential use, but on-site inspection has not been completed to confirm or deny this assertion. Also on the site is a single-story shed with a gable roof. The construction dates of these buildings was estimated by Dell Upton to be ca. 1870, which is consistent with the popularity of gravel wall buildings in the area at the time (see the Elias Kindig House).



AU19 (Grove House Outbuildings)



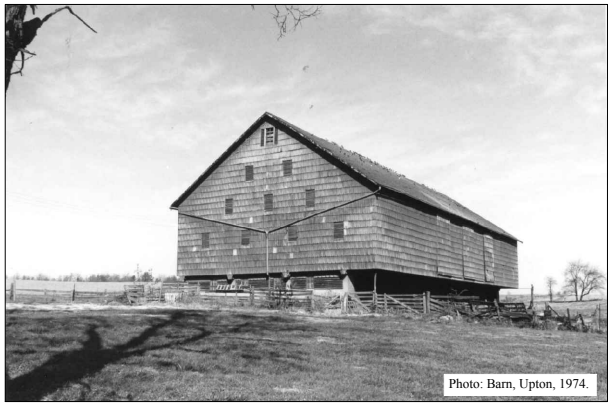


Photo: Barn, Upton, 1974.

Photo: Shed, Upton, 1974.

AU20 (Maple Shade)

DHR# 07-308 (Maple Shade)

Status: Demolished, unsurveyed
Historic Use: Residential
Current Use: N/A

Built: 1865
Source of date: Newspaper reference (SS 9/12/1882)

Evidence of Construction: Prior survey, newspaper reference

Maps:
1864: Swink
1870: W. Swink
1875: Swink
1885: Martin Maddox's

Prior Surveys: Ed Chappell, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), November 1976. J.W. Apperson, Historical Inventory Project (AU281), WPA, December 1937.

Stories: 2

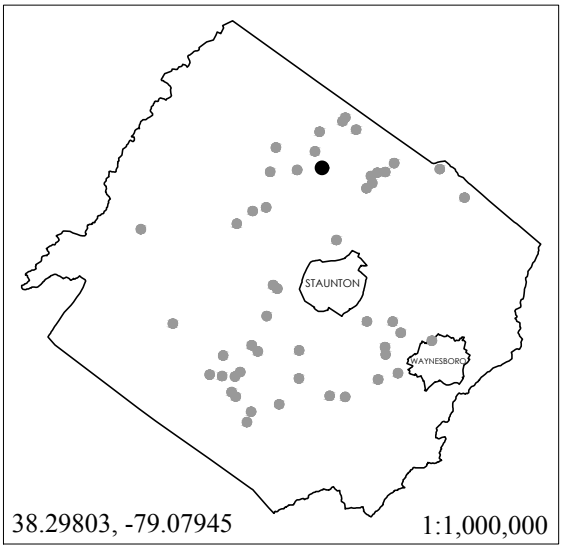
Bays: 3

Roof Shape: Gable

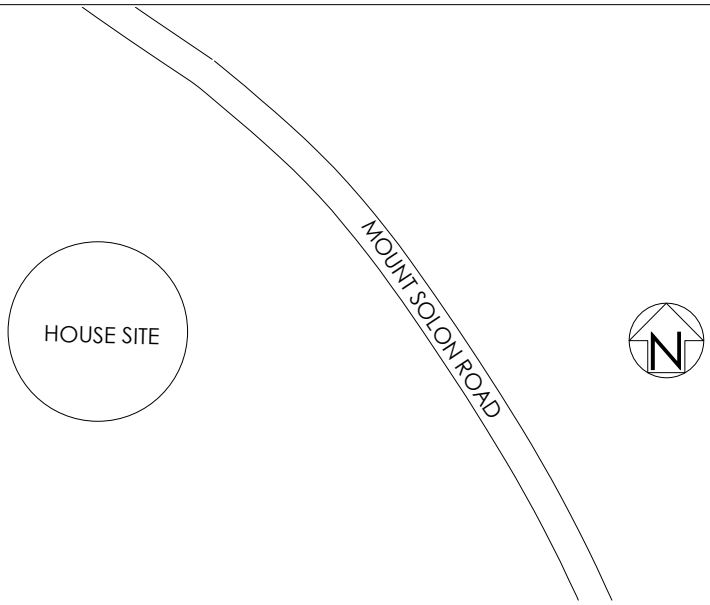
Nearest gravel wall building: Hugh Baxter House (AU25) - 1.5 miles


Photo: Chappell, 1974.

Maple Shade was a three-bay, two-story building located near the village of Moscow, Virginia. Built in 1865, the building had Greek Revival detailing both on the interior and exterior, according to Ed Chappell. The interior gable-end chimneys are a common feature of early gravel wall buildings, but the paired gable end attic lights is a feature not as common. The house was demolished sometime between 1982 and 1998, according to aerial images.



AU20 (Maple Shade)



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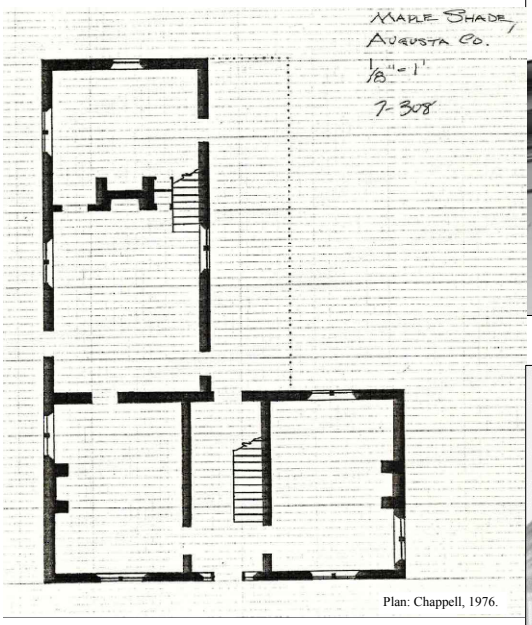


Plan: Chappell, 1976.

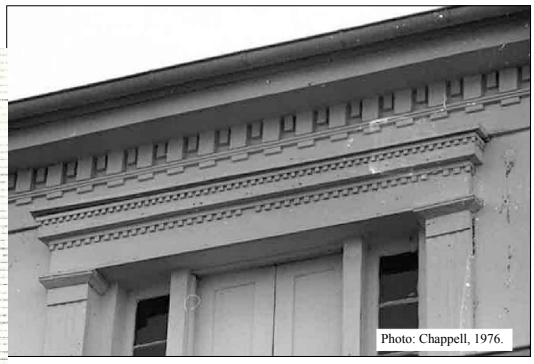


Photo: Chappell, 1976.

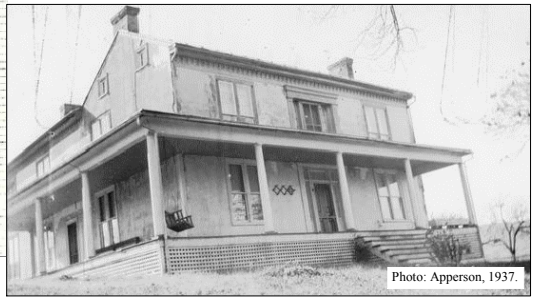


Photo: Apperson, 1937.

AU21 (Irvine House)

SURVEYED
10/8/2017

DHR# 07-457 (Irvin-Thomas House)

Status: Extant, surveyed
Historic Use: Residential
Current Use: Vacant

Built: Late 19th century
Source of date: Prior survey

Evidence of Construction: Architectural evidence from site visit, prior survey

Maps:
1864: Not included
1870: Not noted
1875: Not noted
1885: J.M. and F. Irvine

Prior Surveys: Ann McCleary, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), November 1978.

Stories: 2

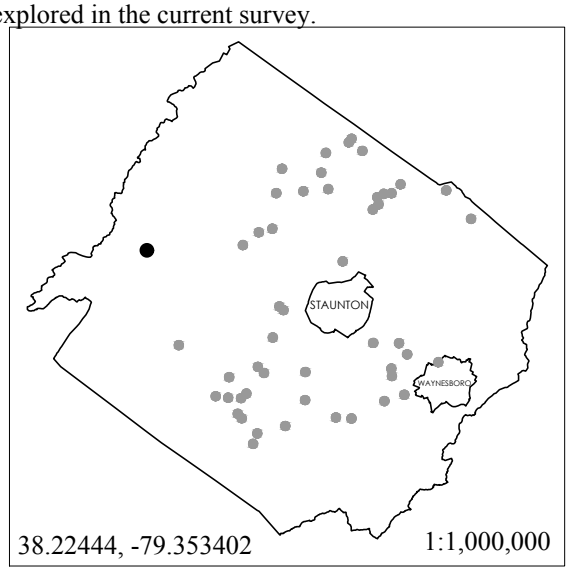
Bays: 3

Roof Shape: Gable

Nearest gravel wall building: Baylor House (AU32) - 7.9 miles

Photo: Author, 2017.

The Irvine House is a banked two-story gravel wall house located in rural Augusta County near the community of West Augusta, Virginia. The house is an outlier both in its location and its unusual form. Essentially an I-house with rooms added on either side of the main rooms to create a pseudo, triple-pile appearance, the house is the only known example in the county of this "H-Plan." In her 1978 survey, McCleary noted that "the house [had] been vacant for many years." Still vacant, the house continues to deteriorate. McCleary contended that the house originated as an I-house and the rooms that created the H-Plan were a later addition. This assertion was not explored in the current survey.



AU21 (Irvine House)

SURVEYED 10/8/2017

EXTERIOR

Foundation:
Continuous, fieldstone, partially visible above grade.

Exterior finish:
Stucco, unscored.

Porch:
One-story covered entrance. Historic photographs indicate the existence of a single-story porch on the south elevation, which was removed sometime after 1978.

Windows:
Original 6-over-6 double-hung sash, many panes missing.

Front Door:
Missing, evidence that a set of double doors served as the front door.

Chimneys:
6 stuccoed brick, 2 in the main I-house portion, 4 in the small additions.

Eaves:
Wood. Plain.

Roof:
Gable. Standing seam metal roof.

Additions:
McCleary argues that the four rooms on either side of the I-house portion is an addition. The second story of the central covered entrances were closed-in at some later date.

Exterior wall thickness:
1'-1"

INTERIOR

Interior finish:
Plaster

Interior details:
Plain interior detailing. Window and door architraves often without profile. Plain baseboards exist throughout the house. Many mantels referenced by McCleary are no longer in the house.

Doors:
Many doors gone, the ones that remain are largely raised two-panel.

Staircase:
Enclosed, full-flight, no newel or balusters.

Floor joist spacing (captured in basement):
Not captured.

Interior wall thickness:
3" (enclosed stair wall), 11" (interior gravel walls).

Interior wall material:
Stud wall (stair walls), Gravel wall (all other walls).

Additions/changes:
Difficult to determine due to the advanced decay of house.

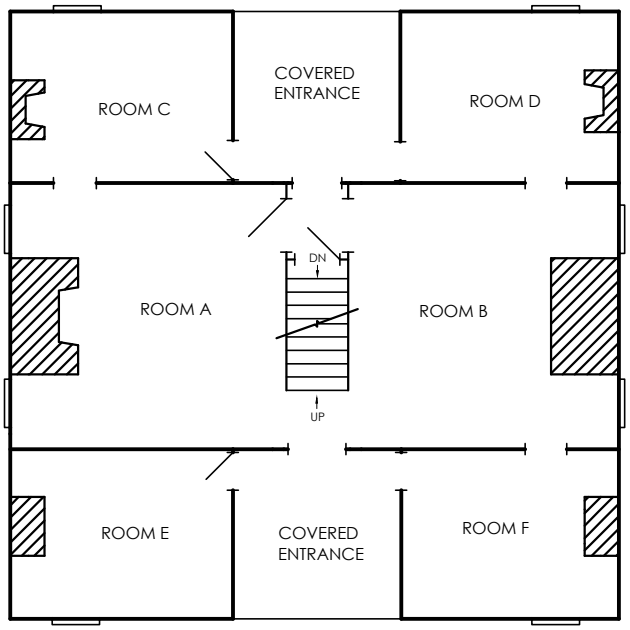
Notes:
The house has an extensive basement, mainly for storage. Notably, there's a stone-lined well in the dairy, as noted by McCleary.

AU21 (Irvine House)

SURVEYED
10/8/2017

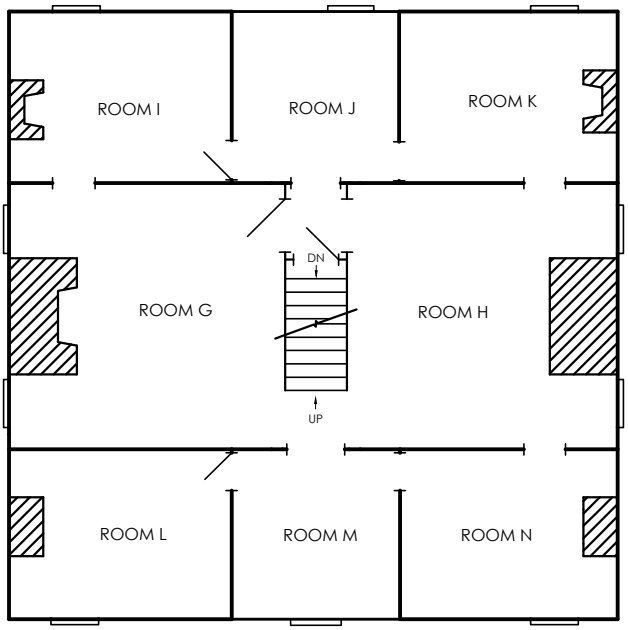
FIRST FLOOR PLAN

(NOT TO SCALE)



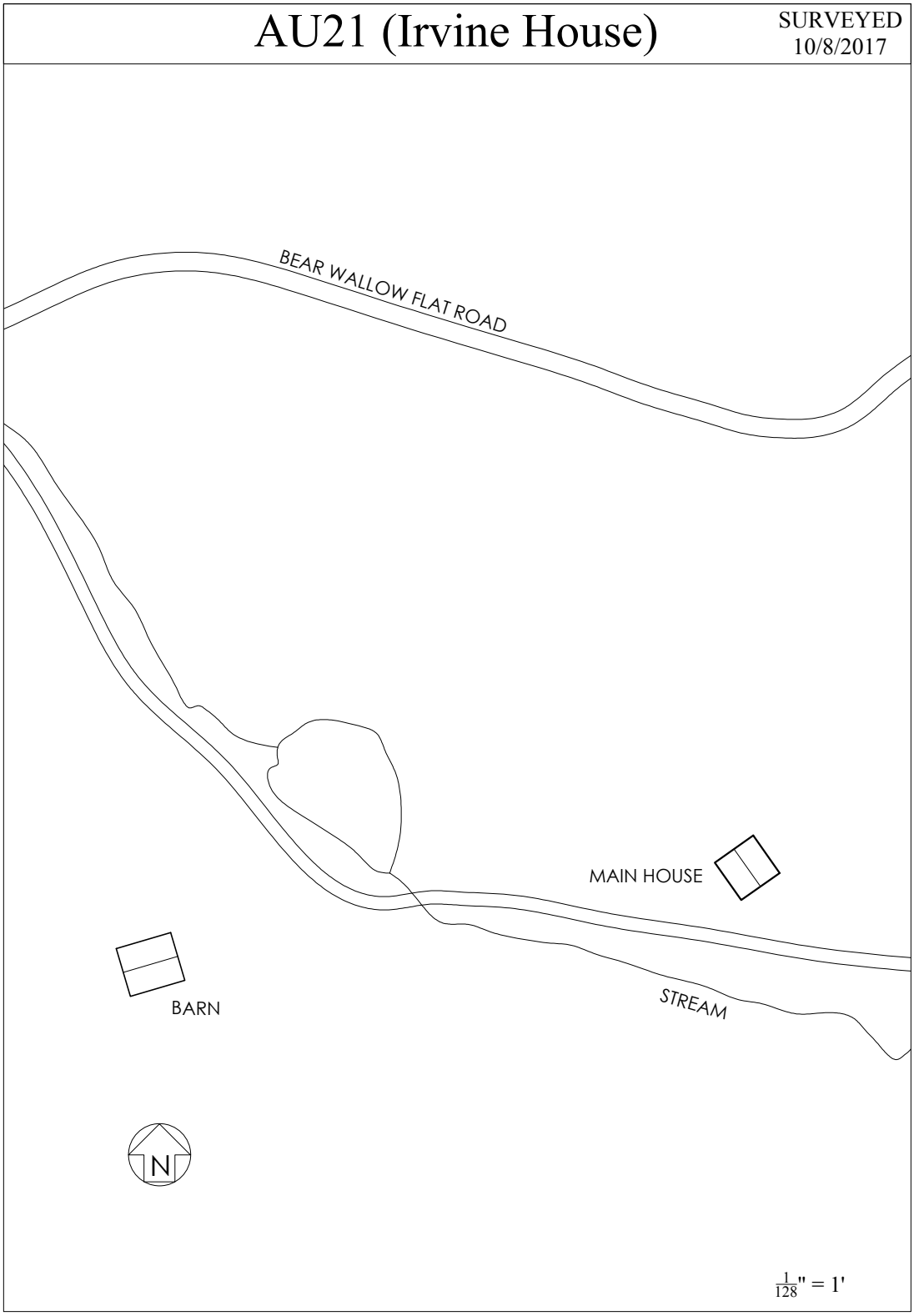
SECOND FLOOR PLAN

(NOT TO SCALE)



AU21 (Irvine House)

SURVEYED
10/8/2017



AU21 (Irvine House)

SURVEYED
10/8/2017

Photo: Front oblique. Author, 2017.

Photo: Rear elevation. Author, 2017.

Photo: Gravel wall detail. Author, 2017.

Photo: Room B. Author, 2017.

Photo: One of the few remaining two-pane doors in the house. Author, 2017.

Photo: Attic, showing gravel wall construction. Author, 2017.

AU22 (McClung House)

DHR# 07-598 (James McClung House)

Status: Demolished, unsurveyed
Historic Use: Residential addition
Current Use: N/A

Built: 1882
Source of date: Newspaper reference (SS 9/12/1882)

Evidence of Construction: Prior survey, newspaper reference

Maps:
1864: Not included
1870: McClung's
1875: Not noted
1885: B.F. McClung

Prior Surveys: Ann McCleary, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), November 1979. James W. McClung, Historical Inventory Project (AU75), WPA, October 1938.

Stories: 2

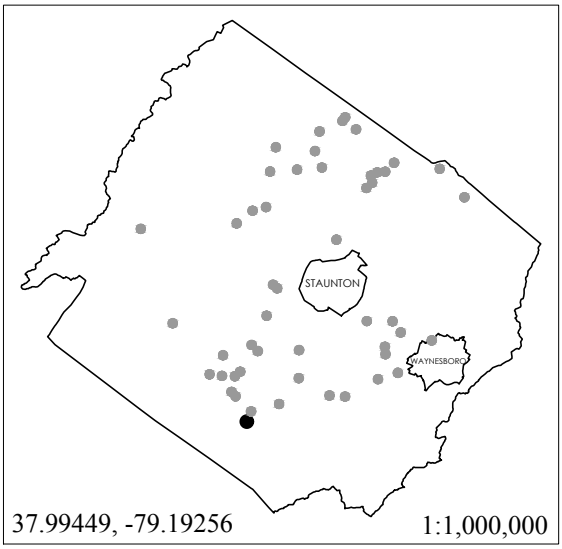
Bays: 2

Roof Shape: Gable

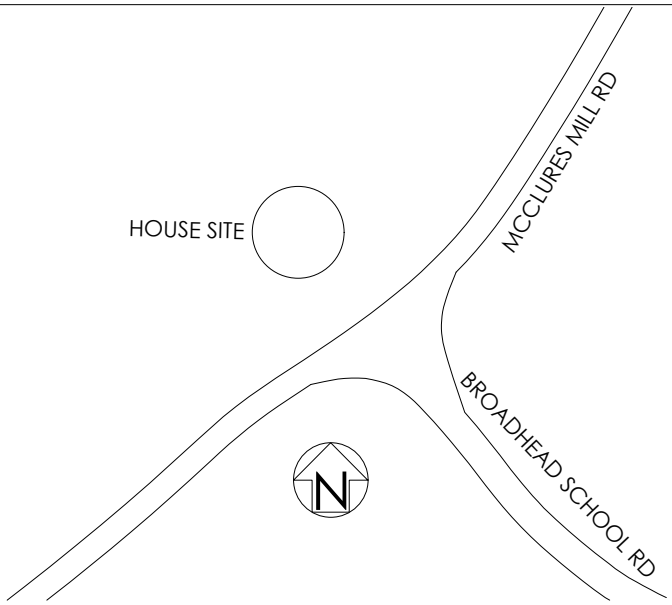
Nearest gravel wall building: McGuffin House (AU24) - 0.9 miles

Photo: McCleary, 1979.

The McClung House was a combination brick and gravel wall house located near the village of Greenville, Virginia. The original building was estimated to have been built ca. 1840-1860 and the gravel wall addition was built ca. 1882 by William H. Peterson. A lateral addition, entry into the gravel wall house was gained through a door off of the porch and followed a pseudo-side hall plan. Unlike other examples, the addition to the original McClung House was treated as an addition, rather than a new massing that usurped prominence from the original building. The front cross gable is a common feature for this time period, but the interior gable end chimneys are unusual.

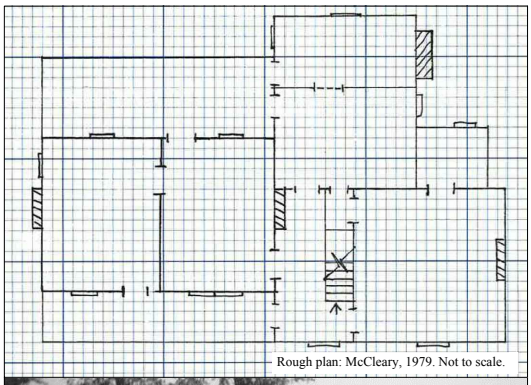


AU22 (McClung House)



$\frac{1}{128}$" = 1'

Photo: 1979, McCleary.



Rough plan: McCleary, 1979. Not to scale.

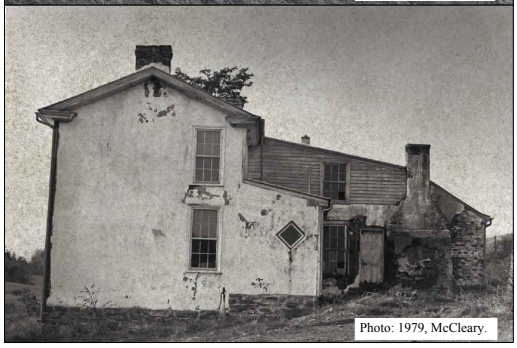


Photo: 1979, McCleary.

Photo: McClung, 1938.

AU23 (McCue House)

SURVEYED
10/8/2017

DHR# 07-297 (W.H. Myers House)

Status: Extant, surveyed
Historic Use: Residential
Current Use: Residential

Built: 1859
Source of date: Newspaper reference

Evidence of Construction: Architectural evidence from site visit, prior survey, newspaper reference

Maps:
1864: McCue
1870: Col. J.M. McCue
1875: J.M. McCue
1885: Capt. James Todd

Prior Surveys: Ed Chappell, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), December 1976.

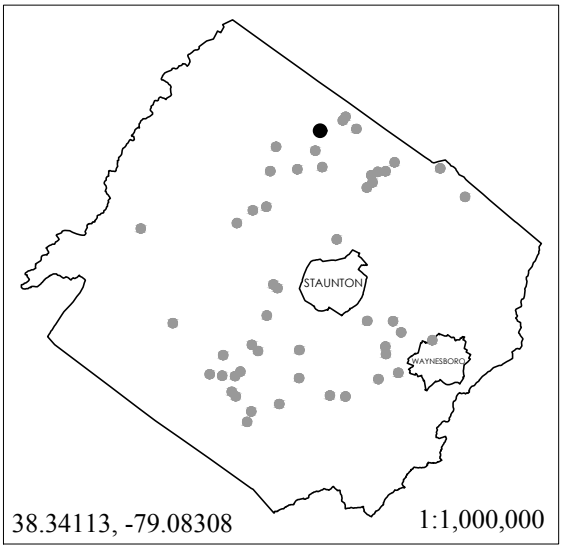
Stories: 2

Bays: 3

Roof Shape: Gable

Nearest gravel wall building: Hugh Baxter House (AU25) - 1.7 miles

The McCue House is a two-story board wall house located near the village of Mount Solon, Virginia. The house is perhaps the best example of Orson Fowler's influence in Augusta County. The house was built in 1859 of board wall by William Peterson for J.M. McCue. A year later, McCue had Peterson build gravel wall kitchen and a carriage house built. The house retains much of its original interior material, including original doors, hardware, and architraves, and follows a double-pile, center hall plan, referred to by Chappell and McCleary as the "double-pile Georgian plan." Internal lateral wall chimneys are consistent with mid-century double-pile Georgian plans (see AU7).



AU23 (McCue House)

SURVEYED 10/8/2017

EXTERIOR

Foundation:
Not visible from exterior.

Exterior finish:
Stucco, unscored.

Porch:
One-story, above grade (accessible by steps) with four Ionic columns across the front and two pilasters at intersection with the facade. Paired modillions at cornice above each column. Turned balusters and railing along side of porch.

Windows:
Paired 4-over-4 double-hung sash, paired 4-over-8 double-hung sash

Front Door:
Double doors, each with single pane. Box lock. Sidelights and transom surround door, with Greek Revival details.

Chimneys:
3 stuccoed brick, 2 in the main I-house portion, 1 in the ell.

Eaves:
Wood, with Italianate brackets.

Roof:
Hipped, with monitor at center. Standing seam metal roof.

Additions: Closed-in porch off of kitchen

Exterior wall thickness: 10-1/8" (board wall), 10" (gravel wall)

INTERIOR

Interior finish:
Plaster, wallpaper, sheetrock

Interior details:
Greek Revival architraves, half croseted trim, chair rail, baseboards

Doors:
Original doors flat two-panel with walnut burl panel, at least 7'-2" tall, with interior locks that bear the inscription "Russell, Erwing, & Co."

Staircase:
Full-flight, newel with square base, octagonal shaft, and turned top. Turned balusters.

Floor joist spacing (captured in basement):
Not captured.

Interior wall thickness:
8-1/2" (stair hall walls), 6-5/8" (lateral walls)

Interior wall material:
Board wall (stair hall walls, lateral walls), stud wall (other added walls).

Additions/changes:
Bathroom added on first floor, central chimney removed with extensive kitchen renovation, ceilings lowered in front two rooms (dining room and living room).

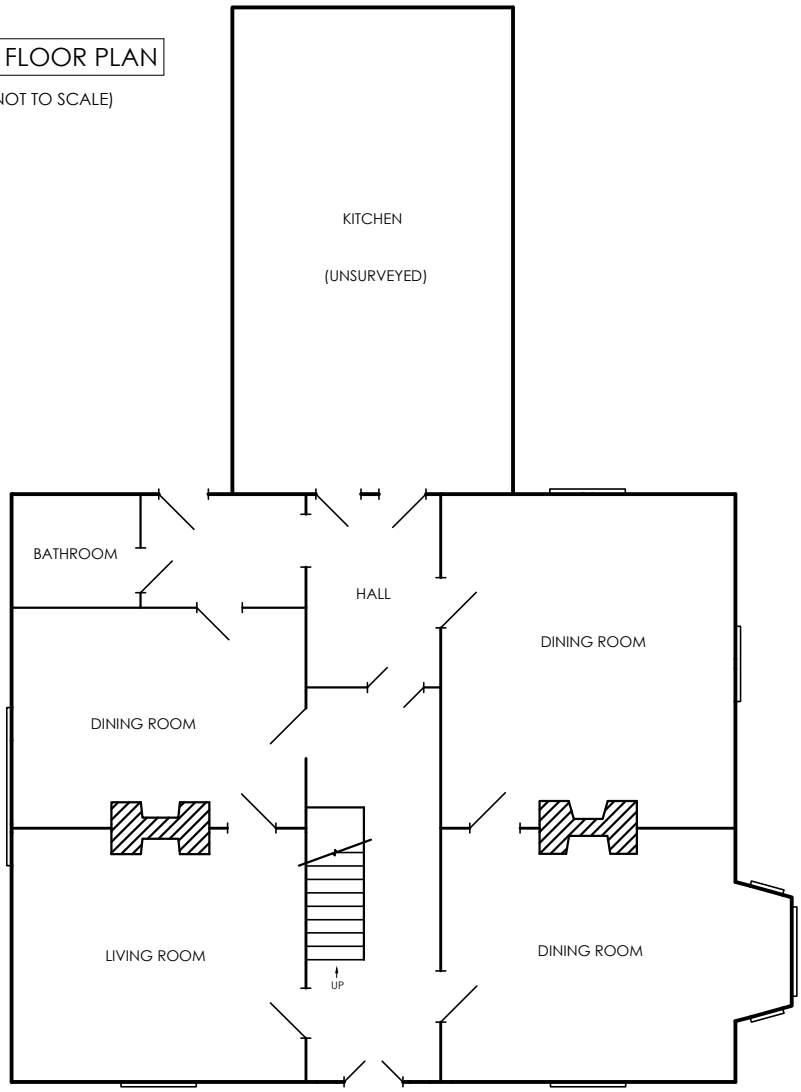
Notes:
The house currently functions as combination residence and event space. This house could be eligible for the National Register.

AU23 (McCue House)

SURVEYED
10/8/2017

FIRST FLOOR PLAN

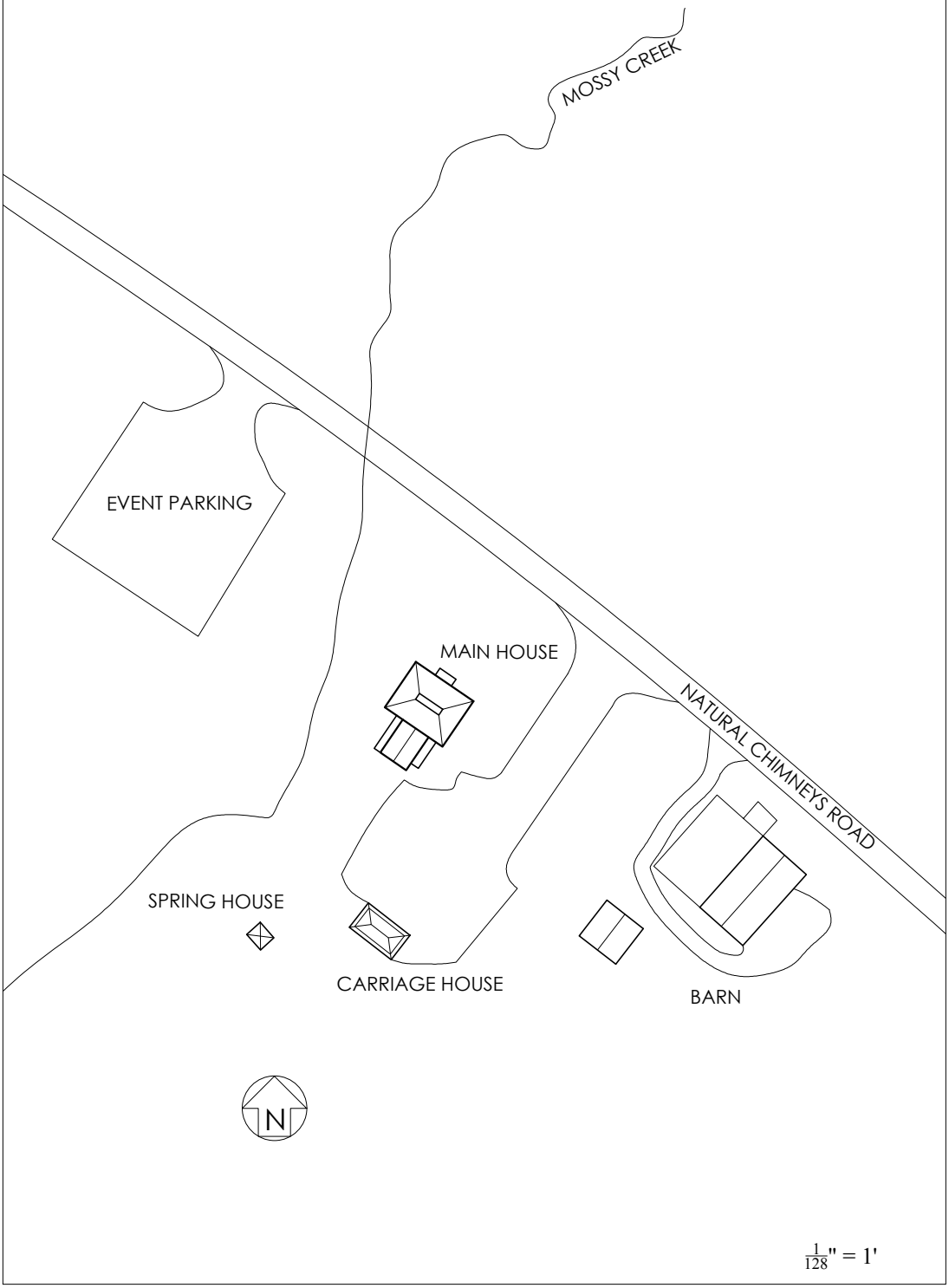
(NOT TO SCALE)



SECOND FLOOR NOT INVESTIGATED

AU23 (McCue House)

SURVEYED
10/8/2017



AU23 (McCue House)

SURVEYED
10/8/2017

Photo: Front elevation. Author, 2017.

Photo: Side elevation. Author, 2017.

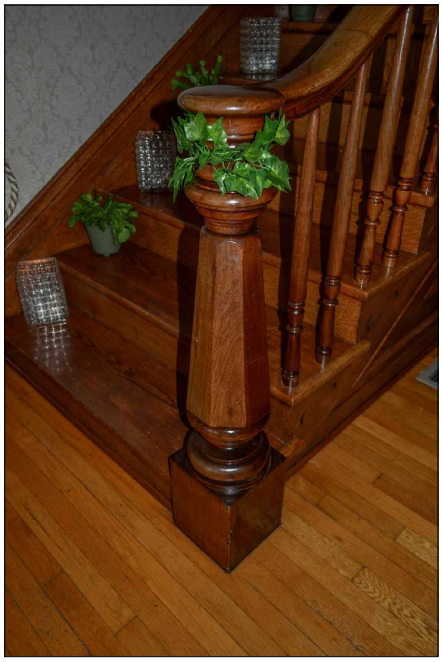


Photo: Main stair detail. Author, 2017.

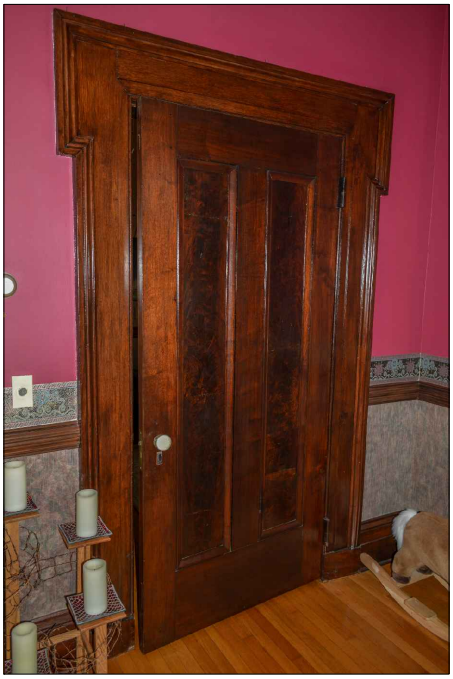


Photo: Typical door and half crosette. Author, 2017.

Photo: Gravel wall carriage house. Author, 2017.

Photo: Carriage house attic, showing gravel wall construction. Author, 2017.

AU24 (McGuffin House)

DHR# N/A

Status: Extant, unsurveyed
Historic Use: Residential
Current Use: Residential

Built: 1882
Source of date: Newspaper reference (SS 9/12/1882)

Evidence of Construction: Newspaper reference

Maps:
1864: Not included
1870: T. McGuffin
1875: McGoffin
1885: Mrs. M.C. McGuffin

Prior Surveys: none

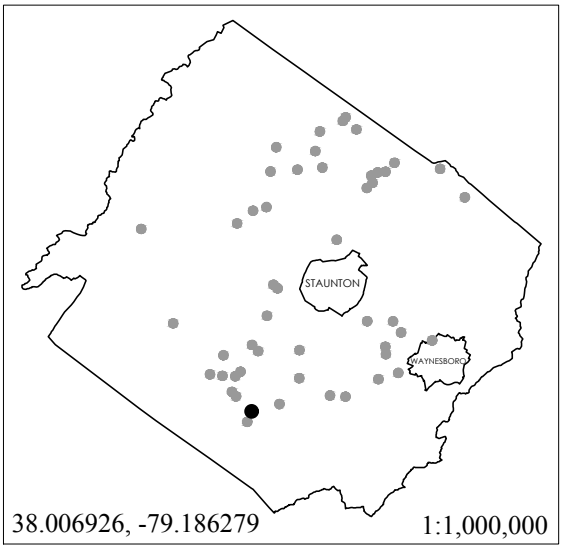
Stories: 2

Bays: 3

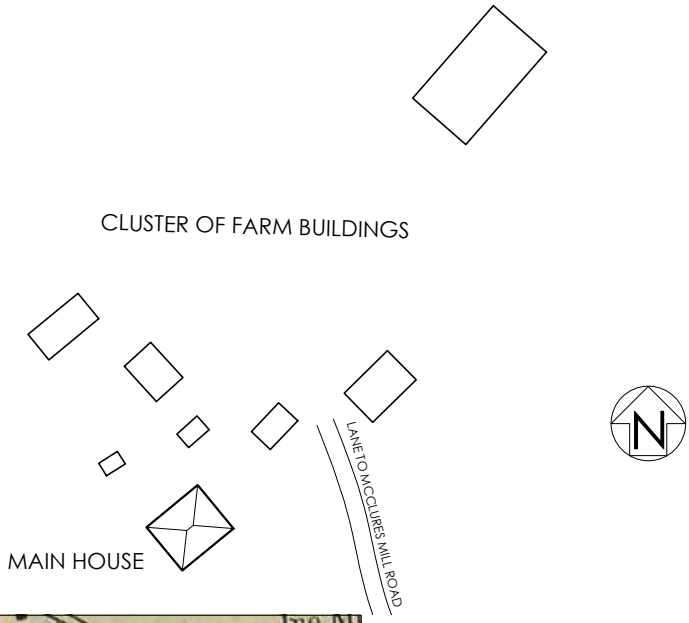
Roof Shape: Hip

Nearest gravel wall building: McClung House (AU22) - 0.9 miles

The McGuffin House is a gravel wall house located near Greenville, Virginia. Built by William H. Peterson ca. 1882, the McGuffin House has a hipped roof with paired interior chimneys, a common architectural feature for houses in Augusta County in the late-19th century. Its close proximity to the McClung House and similar construction date suggests that the two were built concurrently. However, there are architectural differences between the two, which highlight the high amount of variation these buildings exhibit.



AU24 (McGuffin House)



$\frac{1}{128}$" = 1'

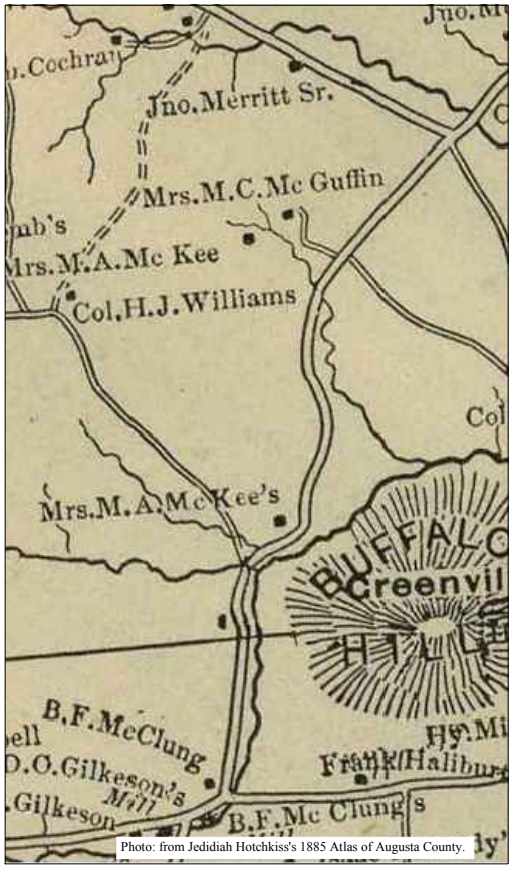
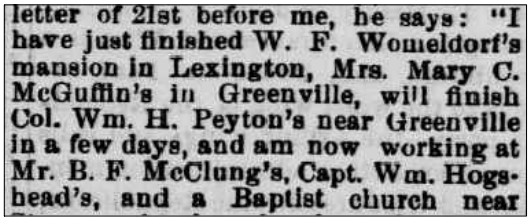


Photo: from Jedidiah Hotchkiss's 1885 Atlas of Augusta County.



letter of 21st before me, he says: "I have just finished W. F. Womeldorf's mansion in Lexington, Mrs. Mary C. McGuffin's in Greenville, will finish Col. Wm. H. Peyton's near Greenville in a few days, and am now working at Mr. B. F. McClung's, Capt. Wm. Hogshead's, and a Baptist church near

Photo: A portion of "The Concrete Building," *Staunton Spectator*, 9/12/1882.

AU25 (Hugh Baxter House)

DHR# 07-309 (Maple Lawn Farm)

Status: Extant, unsurveyed
Historic Use: Residential
Current Use: Residential

Built: 3rd quarter of 19th century
Source of date: Prior survey

Evidence of Construction: Newspaper reference (SS 9/12/1882), prior survey

Maps:
1864: not noted
1870: Hugh Baxter
1875: not noted
1885: Hugh Baxter

Prior Surveys: Ed Chappell, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), November 1976.

Stories: 2

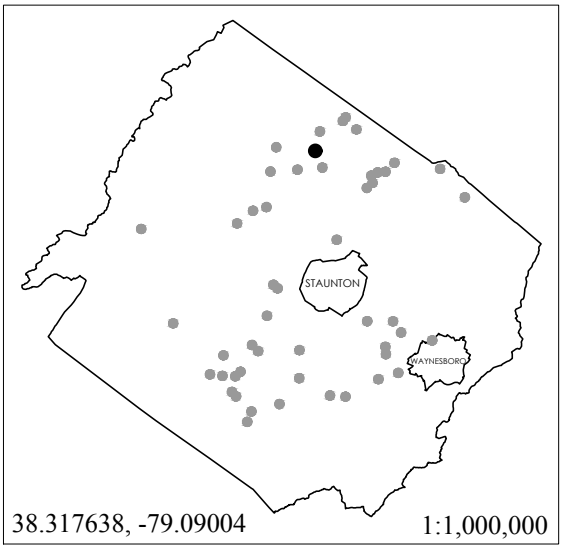
Bays: 3

Roof Shape: Hip

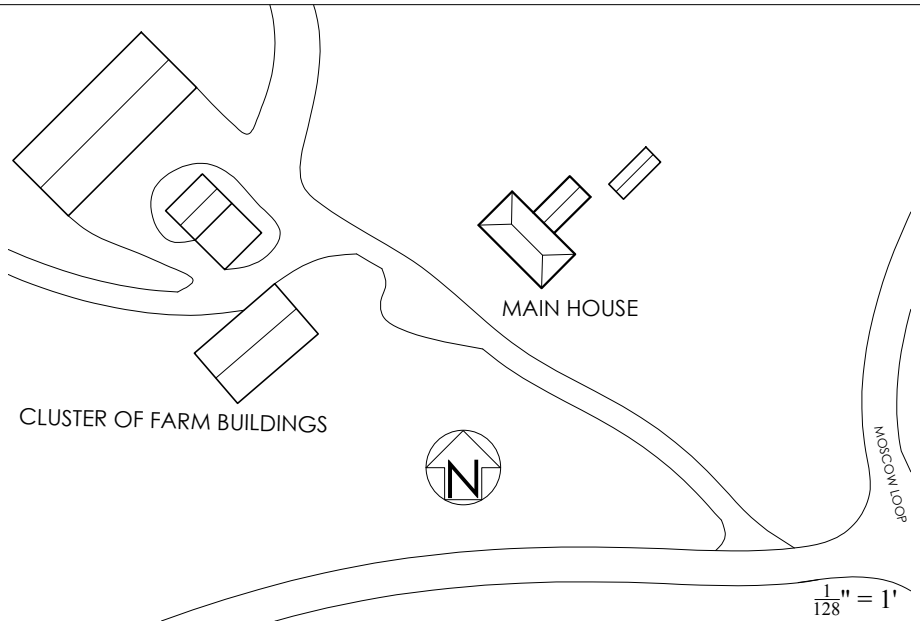
Nearest gravel wall building: Maple Shade (AU20) - 1.5 miles

Photo: Chappell, 1976.

The Hugh Baxter House is a gravel wall house located in the village of Moscow, Virginia. Built by William H. Peterson ca. 1875, the Hugh Baxter House is unusual both in its massing and its orientation. The house follows a double-pile, central passage plan, but its primary entrance sits between two exterior end chimneys. This characteristic is similar to the Crone House (DHR# 07-013). The Italianate brackets and hipped roof place this house architecturally within the last quarter of the 19th century, though the four exterior end chimneys and unusual orientation make a definitive date difficult.



AU25 (Hugh Baxter House)



Photos: Chappell, 1976.

AU26 (Wilkinson House)

SURVEYED 12/12/2017

DHR# 07-120 (Eddy Place)

Status: Extant, surveyed
Historic Use: Residential
Current Use: Residential

Built: ca. 1860-1880
Source of date: Prior survey

Evidence of Construction: Architectural evidence from site visit, prior survey

Maps:
1864: Beard
1870: Mish
1875: Mish
1885: C.T. Palmer's

Prior Surveys: G.P. Heffelfinger, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), February 1973. Ann McCleary, VHLC, June 1980.

Stories: 2

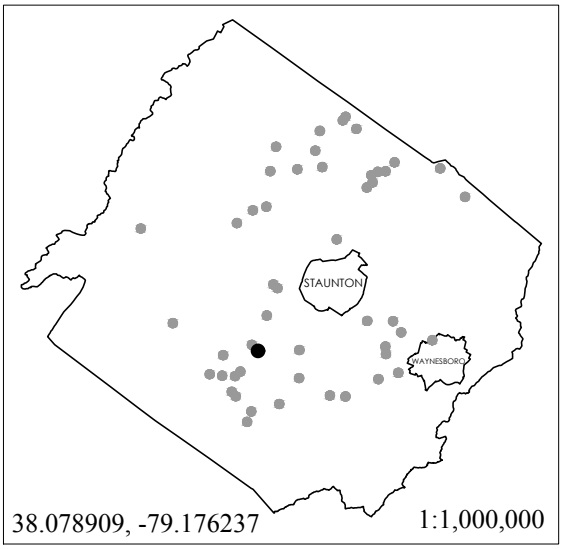
Bays: 3

Roof Shape: Hipped

Nearest gravel wall building: Sensabaugh House (AU1) - 0.7 miles

Photo: Author, 2017.

The Wilkinson House is a two-story gravel wall house located near the village of Middlebrook, Virginia. This house began as a hall and parlor, two-story brick house. Ca. 1860, a gravel wall I-house was added onto the front of the original brick house. This created a plan that almost resembled the double-pile Georgian plan (AU7, AU23), popular at the time. Ann McCleary noted in her 1980 survey that "little remains inside to date the house more precisely" than the 1850 date provided in Heffelfinger's 1978 survey. McCleary incorrectly asserted that the front portion of the house was both brick and original and that its stucco render was later addition.



AU26 (Wilkinson House)

SURVEYED 12/12/2017

EXTERIOR

Foundation:
Continuous, fieldstone, not visible above grade.

Exterior finish:
Stucco, unscored.

Porch:
One-story above grade, accessible by steps. Gable roof, with two square columns and two pilasters at intersection with facade. Not original to house. Ghostmarks exist on stucco that indicate a wrap-around porch was once on the facade.

Windows:
Replacement 6-over-6 and 9-over-9 double-hung sash.

Front Door:
Six raised panels, surrounded by transom and sidelights.

Chimneys:
2 stuccoed brick, located in the original brick portion. Two stuccoed brick chimneys in front gravel wall portion removed.

Eaves:
Wood. Plain.

Roof:
Hipped. Standing seam metal roof.

Additions:
Back porch enclosed, two story gravel wall block sits on the south elevation off the original brick portion, and could potentially be an addition.

Exterior wall thickness:
10-5/8" (gravel wall)

INTERIOR

Interior finish:
Plaster, wallpaper

Interior details:
McCleary noted that much of the interior woodwork was replaced earlier in the twentieth century

Doors:
Raised six-panel with interior hardware.

Staircase:
Half-flight, turned newel and balusters

Floor joist spacing (captured in basement):
Not captured.

Interior wall thickness:
6" (interior stud wall), 10-5/8" (interior gravel wall).

Interior wall material:
Stud wall (between stair hall and dining room), Gravel wall (between stair hall and study).

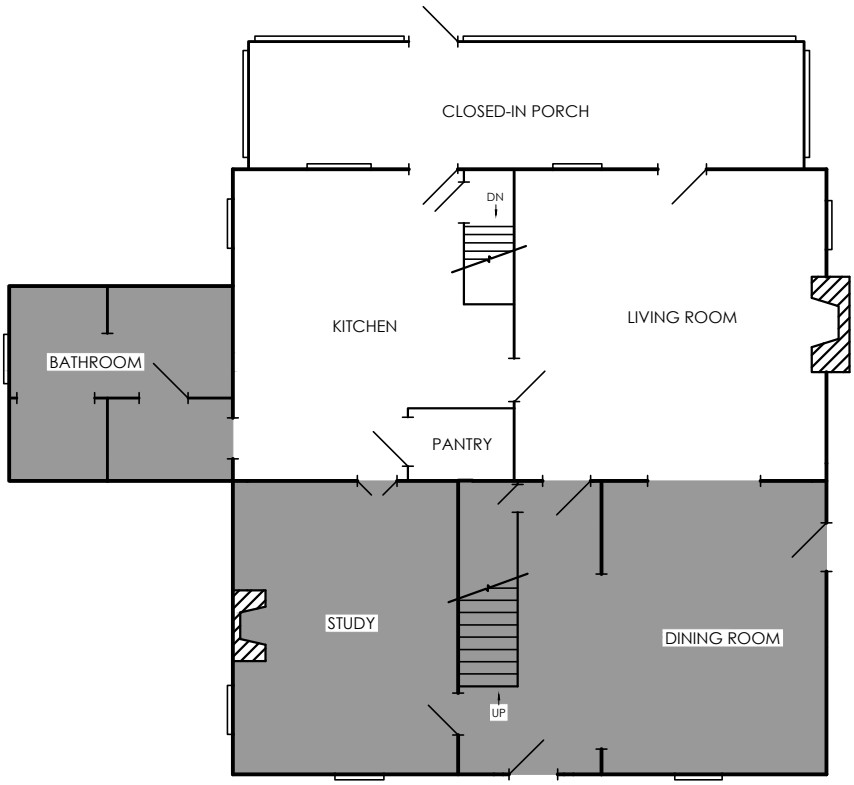
Additions/changes:
Interior remodeled in mid-twentieth century. Difficult to determine phases. Chimney in dining room removed by current owner due to deteriorated condition.

AU26 (Wilkinson House)

SURVEYED
12/12/2017

FIRST FLOOR PLAN

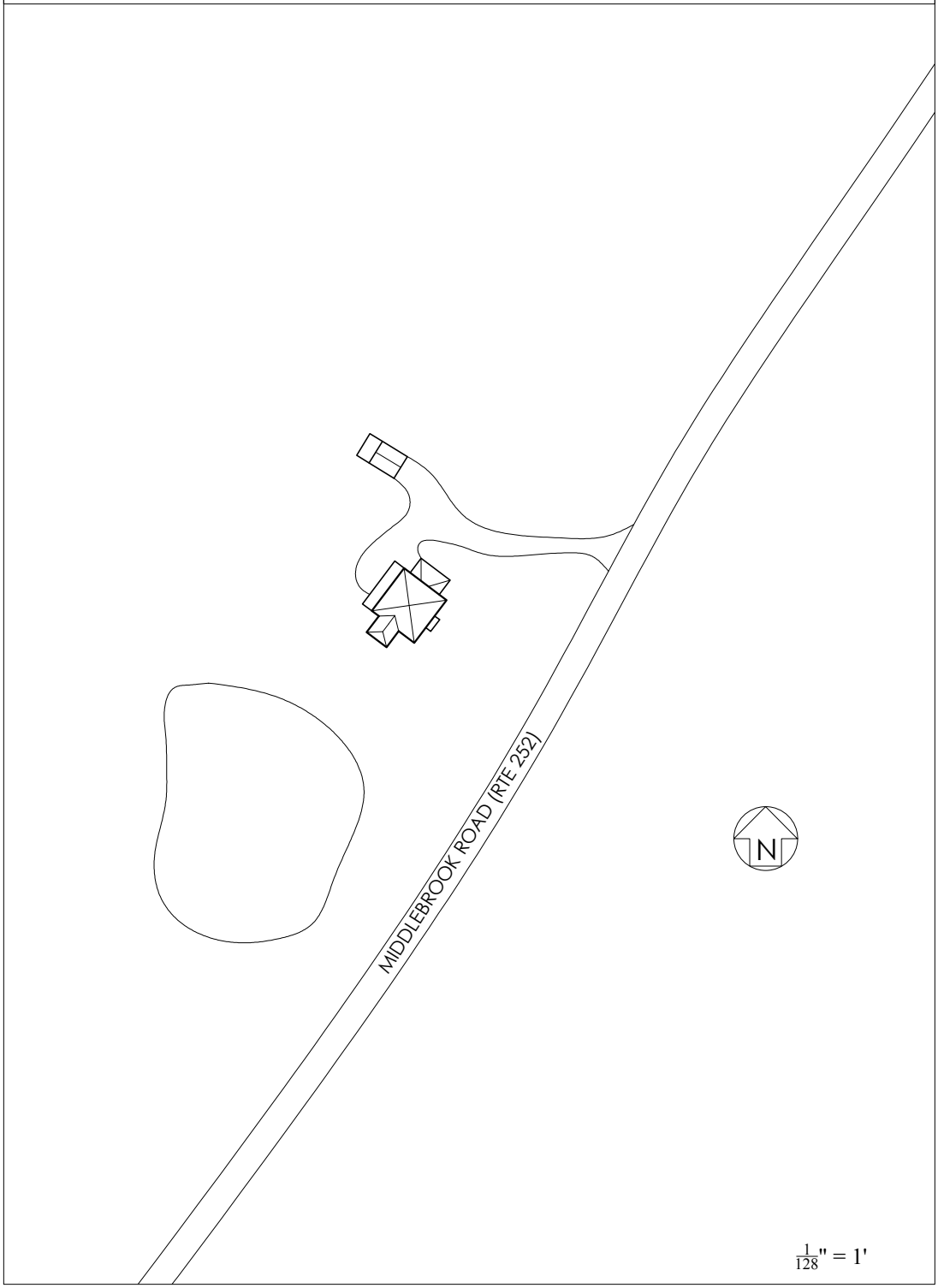
(NOT TO SCALE)
(SHADED AREA DENOTES
GRAVEL WALL)



SECOND FLOOR PLAN NOT INVESTIGATED

AU26 (Wilkinson House)

SURVEYED
12/12/2017



AU26 (Wilkinson House)

SURVEYED
12/12/2017

Photo: Front oblique. Author, 2017.

Photo: Rear oblique. Author, 2017.

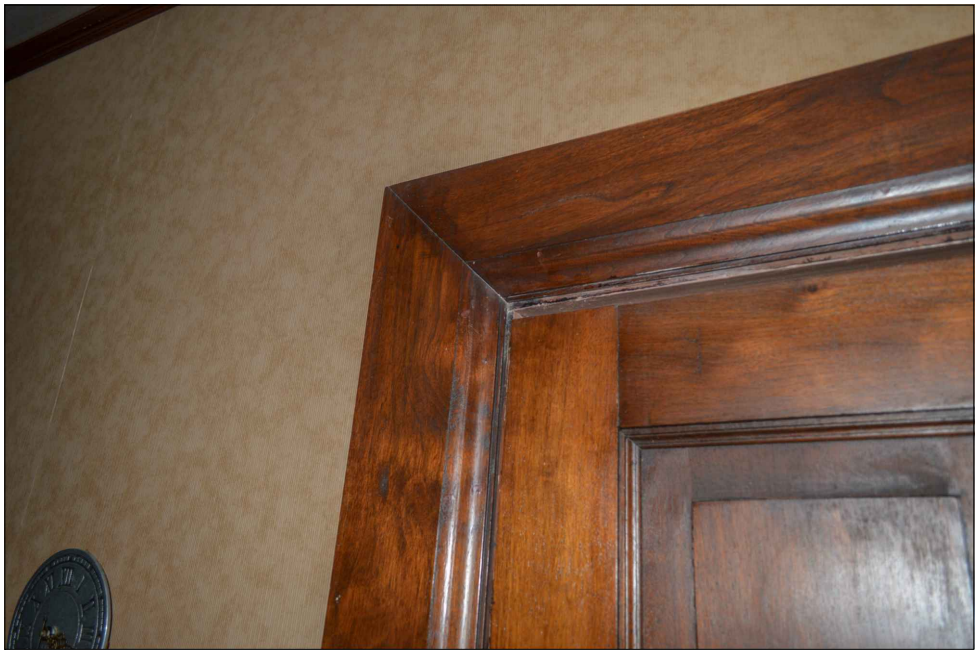


Photo: Typical door trim. Author, 2017.

Photo: Basement gravel wall. Author, 2017.

Photo: Exposed gravel wall under an eave during 1980s renovation. Kenneth Wilkinson.

Photo: Main stair, newel detail. McCleary, 1980.

AU27 (William Glenn House)

DHR# 07-851 (William Glenn House)

Status: Extant, unsurveyed
Historic Use: Residential
Current Use: Residential

Built: ca. 1860-1880
Source of date: Prior survey

Evidence of Construction: Prior survey

Maps:
1864: not included
1870: S. Kennedy
1875: Kennedy
1885: William Glenn

Prior Surveys: Ann McCleary, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), October 1981.

Stories: 2

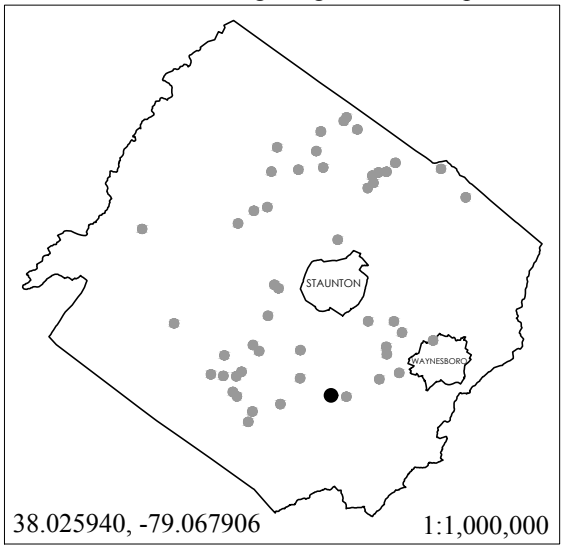
Bays: 3

Roof Shape: Hip

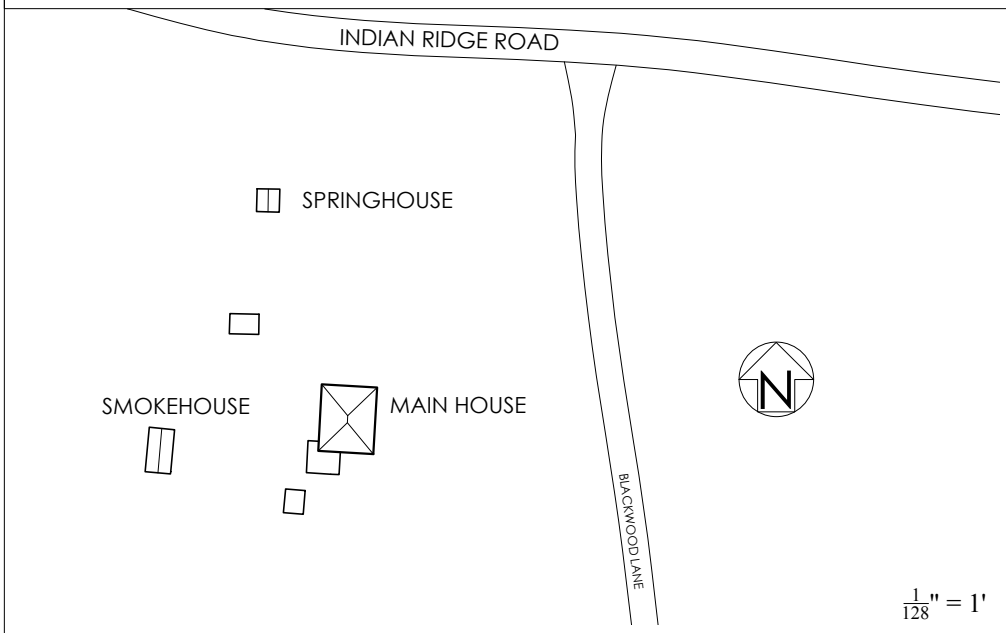
Nearest gravel wall building: Maupin House (AU45) - 1.3 miles


Photo: McCleary, 1981.

The William Glenn House is a two-story gravel wall house located near the community of Stuarts Draft, Virginia. The house follows the prevalent I-house form, but architectural historian Ann McCleary noted that a rear addition made the house "almost square in shape." This addition is a two-room ell "running along the length of the I-house, instead of projecting off the back." This flipped ell is the only example in the gravel wall plan houses investigated for this study. The house's hipped roof and interior chimneys are consistent with post-Civil War architectural trends in the area. McCleary noted two "stuccoed stone" outbuildings on the property. In particular, the two-level smokehouse is intriguing because of its lack of a stucco render, leaving the gravel wall exposed.



AU27 (William Glenn House)




Rear of House

Photos: McCleary, 1981.


Smokehouse


Main Stair

AU28 (Brand House)

DHR# associated with 07-905 (W.F. Brand's Mill)

Status: Extant, unsurveyed
Historic Use: Residential
Current Use: Residential

Built: late 19th century
Source of date: Prior survey

Evidence of Construction: Prior survey

Maps:
1864: not noted?
1870: J.W. Hudson
1875: not noted
1885: G.E. Schmucker

Prior Surveys: Ann McCleary, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), December 1981.

Stories: 2

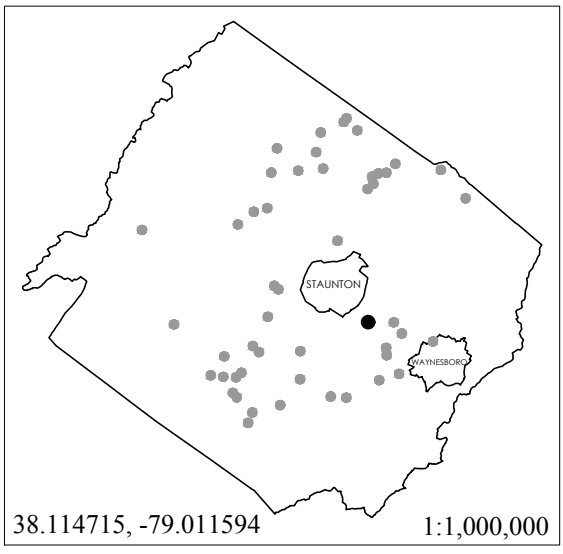
Bays: 3

Roof Shape: Hip, with front cross gable

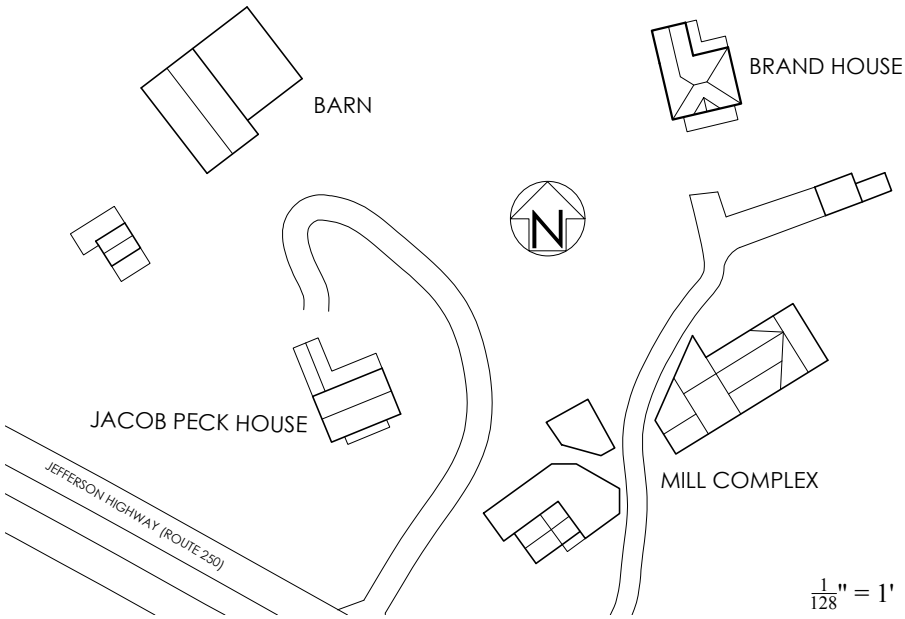
Nearest gravel wall building:
Bell House (AU39) - 2.1 miles


Photo: McCleary, 1981.

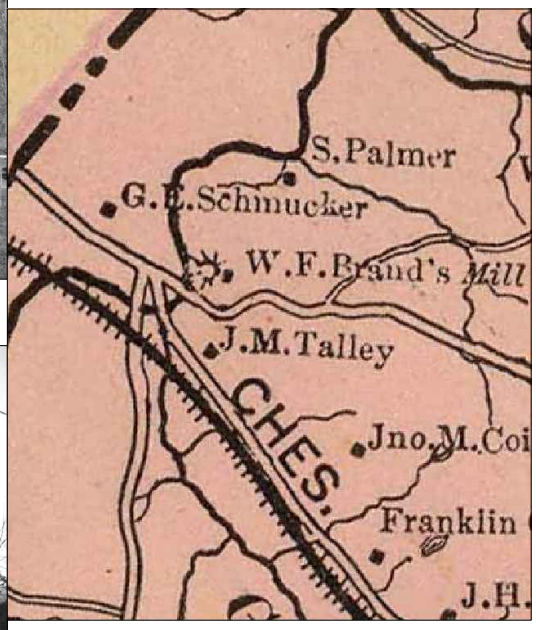
The Brand House is a two-story gravel wall house located near the community of Fishersville, Virginia. The house was surveyed in 1981 by Ann McCleary, but was not the subject of the survey, and as such has never been studied in any detail. McCleary dated the house to a general "late nineteenth century" date, which is consistent with the front cross gable, brackets, and interior chimneys. The gravel wall boom seems to have arrived at the Fishersville area later than in other places, with the nearby Bell House (AU39) and Watson House (AU40) constructed ca. 1883. It is likely that this house was constructed following those two. McCleary noted that the house was used as the residence for the operator of the adjacent mill.



AU28 (Brand House)



Photos: McCleary, 1981.



Hotchkiss, *1885 Atlas of Augusta County*, showing W.F. Brand's Mill.

AU29 (George Ramsey House)

DHR# 07-912 (George M. Ramsey House)

Status: Extant, unsurveyed
Historic Use: Residential
Current Use: Residential

Built: ca. 1880-1900
Source of date: Prior survey

Evidence of Construction: Prior survey

Maps:
1864: not noted
1870: Jac. Swortzel
1875: not noted
1885: Geo. M. Ramsey

Prior Surveys: Ann McCleary, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), December 1981.

Stories: 2

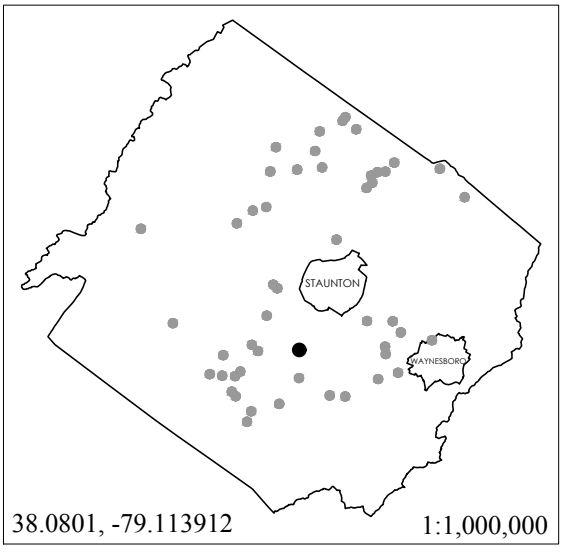
Bays: 3

Roof Shape: Gable, with front cross gable

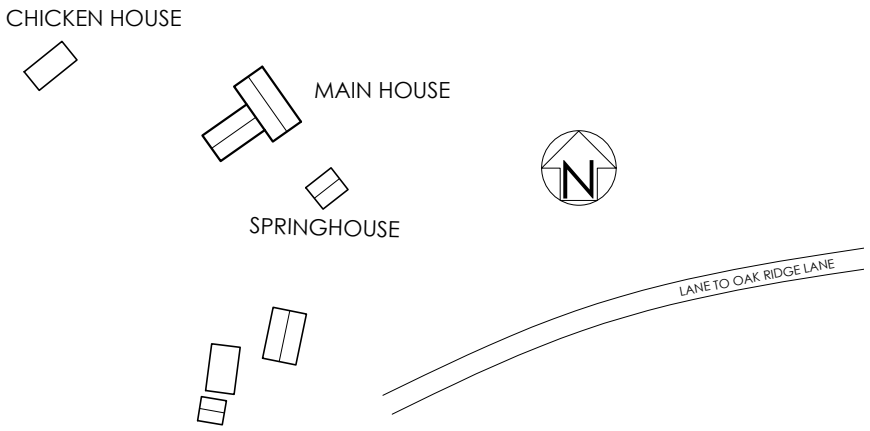
Nearest gravel wall building: Shields House (AU49) - 2.3 miles


Photo: McCleary, 1981.

The George Ramsey House is a two-story gravel wall house located near the community of Mint Spring, Virginia. Built in the late 19th century, the house was an addition to an earlier log house. Gravel wall houses serving as additions was not without precedence in Augusta County, with the nearby Wilkinson House (AU26) and the McClung House (AU22) other notable examples. This house conforms to broad architectural trends prevalent during the late 19th century, such as paired central chimneys and a gable roof with a front cross gable. These particular details bear striking resemblance to the 1892 Sensabaugh House (AU1).

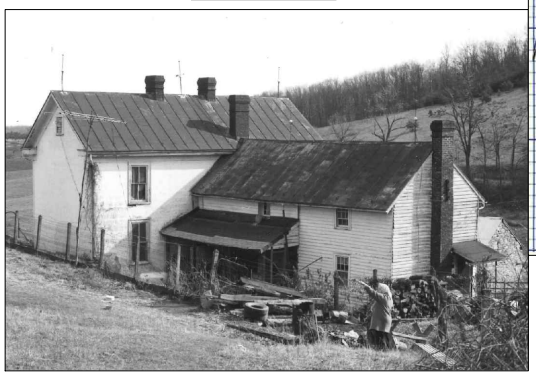


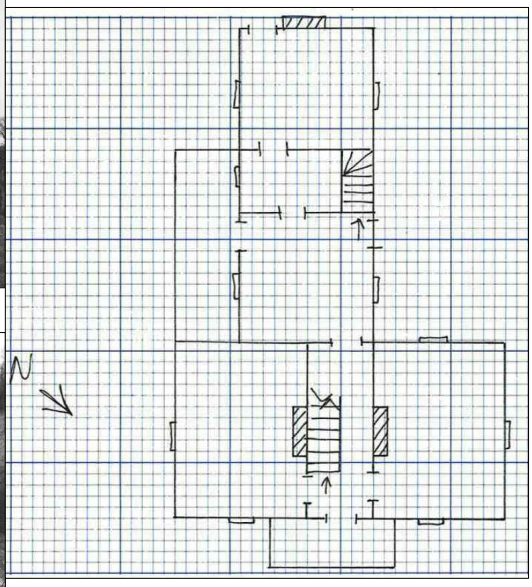
AU29 (George Ramsey House)



$\frac{1}{128}$" = 1'

Photos: McCleary, 1981.





Plan: Ann McCleary, 1981.

AU30 (Robson House)

DHR# N/A

Status: Extant, unsurveyed
Historic Use: Residential
Current Use: Residential

Built: 1871
Source of date: Newspaper reference (SS 9/12/1882)

Evidence of Construction: Newspaper reference, reconnaissance survey

Maps:
1864: not noted
1870: Dr. Robeson
1875: not noted
1885: Dr. D.H. Robson

Prior Surveys: none

Stories: 2

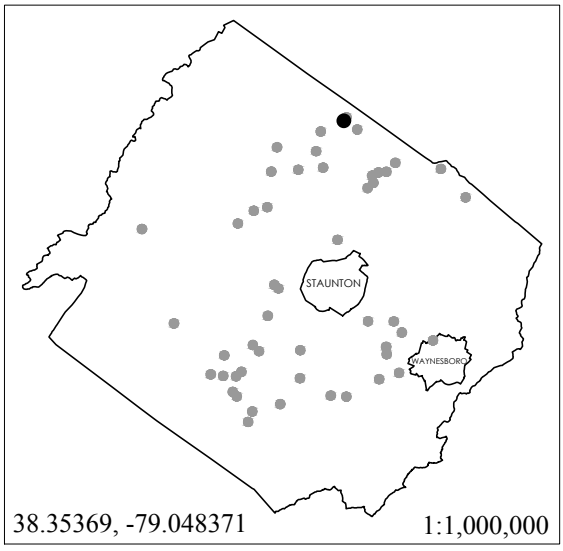
Bays: 3

Roof Shape: Gable

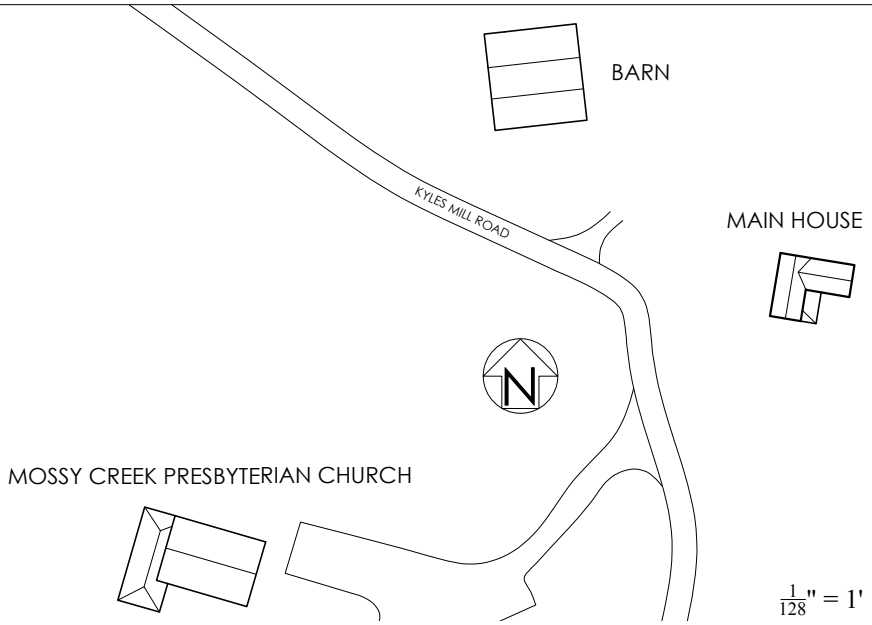
Nearest gravel wall building: Mossy Creek Academy (AU35) - 0.4 miles

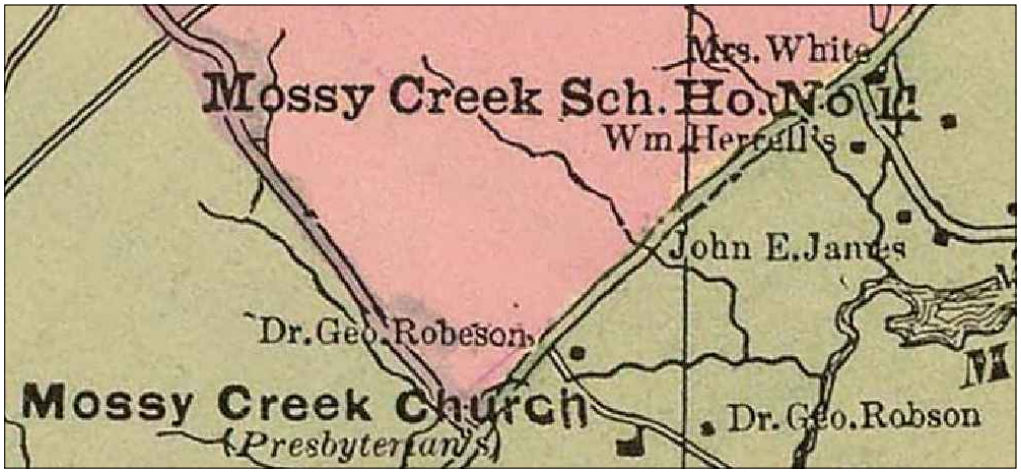
Photo: Vintage Aerial, 1977.

The Robson House is a two-story gravel wall house located near the community of Mossy Creek, Virginia. Built in 1871 by William H. Peterson, the house was built for Dr. Robson. The house has a gable end chimney and interior gable end chimneys, as well as a rear ell. Though unstudied, the house is in close proximity to the gravel wall Mossy Creek Academy. The academy's prominence within the Mossy Creek community likely influenced Dr. Robson to use gravel wall in the construction of his house.

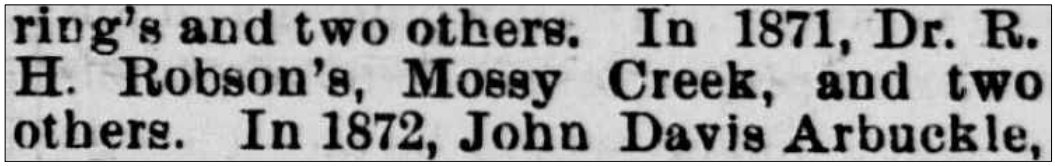


AU30 (Robson House)





Map: Jedidiah Hotchkiss, *Illustrated Historical Atlas of Augusta County, Virginia*, 1885.



ring's and two others. In 1871, Dr. R. H. Robson's, Mossy Creek, and two others. In 1872, John Davis Arbuckle,

Photo: from "The Concrete Building," *Staunton Spectator*, September 12, 1882.

AU31 (Reverend Beard House)

DHR# N/A

Status: Extant, unsurveyed
Historic Use: Residential
Current Use: Residential

Built: 1873
Source of date: Newspaper reference (SS 9/12/1882)

Evidence of Construction: Newspaper reference, reconnaissance survey

Maps:
1864: not noted
1870: not noted
1875: not noted
1885: Rev. C. Beard

Prior Surveys: none

Stories: 2

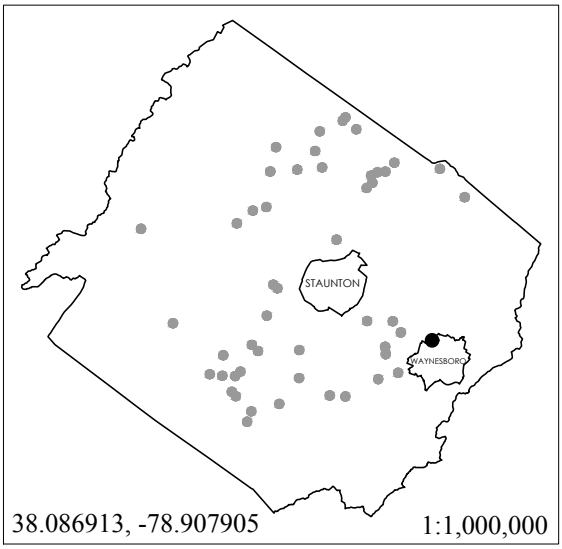
Bays: 3

Roof Shape: Gable

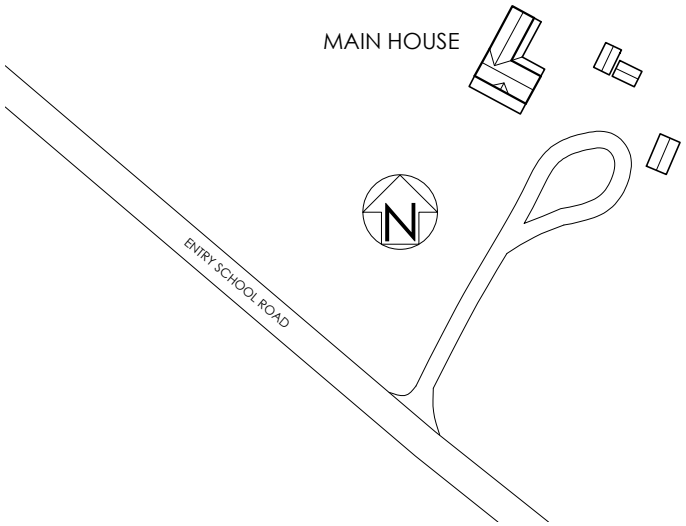
Nearest gravel wall building:
Watson House (AU40) - 2.6 miles

Photo: Google Streetview, 2015.

The Reverend Beard House is a two-story gravel wall house located in the city of Waynesboro, Virginia. Built in 1873 by William H. Peterson, the house was built for Reverend Beard. The house has a gable roof and interior gable end chimneys, as well as a rear ell. The house has a connection to the Pleasant View Mennonite Church, a gravel wall church located in northern Augusta County. Reverend Beard was the pastor of the church upon its construction in 1879, and likely played a large role in the decision to use gravel wall as its construction material.



AU31 (Reverend Beard House)



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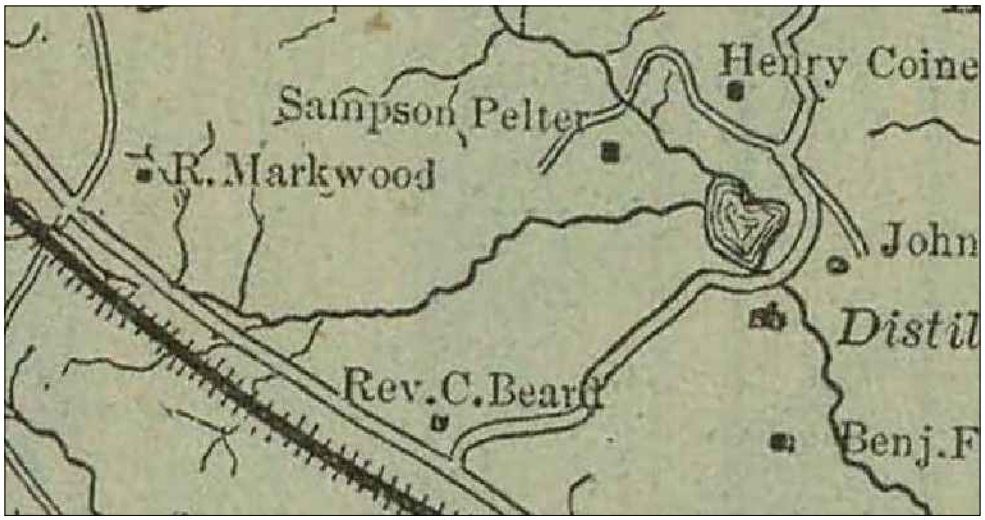
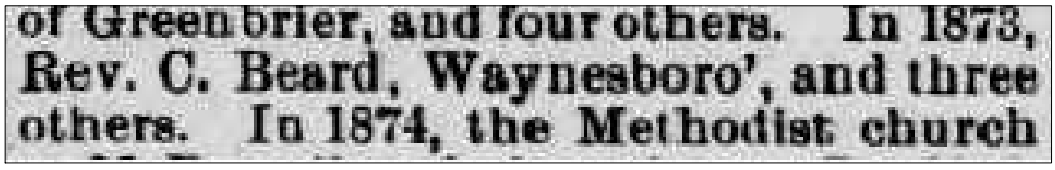


Map: Jedidiah Hotchkiss, *Illustrated Historical Atlas of Augusta County, Virginia*, 1885.



of Greenbrier, and four others. In 1873, Rev. C. Beard, Waynesboro', and three others. In 1874, the Methodist church

Photo: from "The Concrete Building," *Staunton Spectator*, September 12, 1882.

AU32 (Baylor House)

DHR# 07-768 (Baylor House and House Site)

Status: Extant, unsurveyed
Historic Use: Residential
Current Use: Residential

Built: ca. 1870-1890
Source of date: Prior survey

Evidence of Construction: Prior survey

Maps:
1864: not included
1870: not noted?
1875: not noted
1885: Jacob H. Baylor

Prior Surveys: Ann McCleary, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), October 1980.

Stories: 2

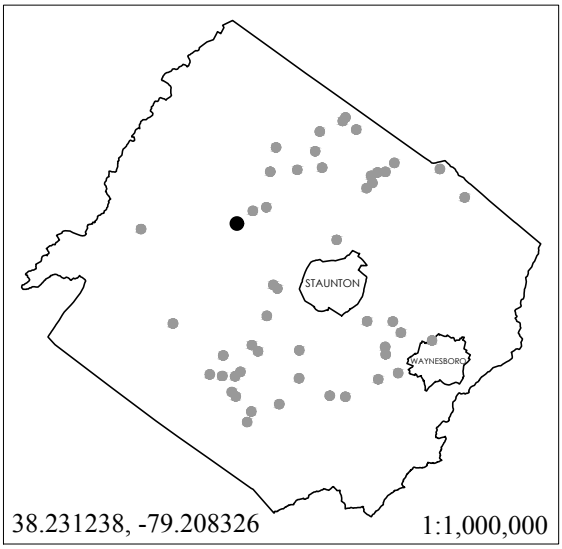
Bays: 3

Roof Shape: Gable

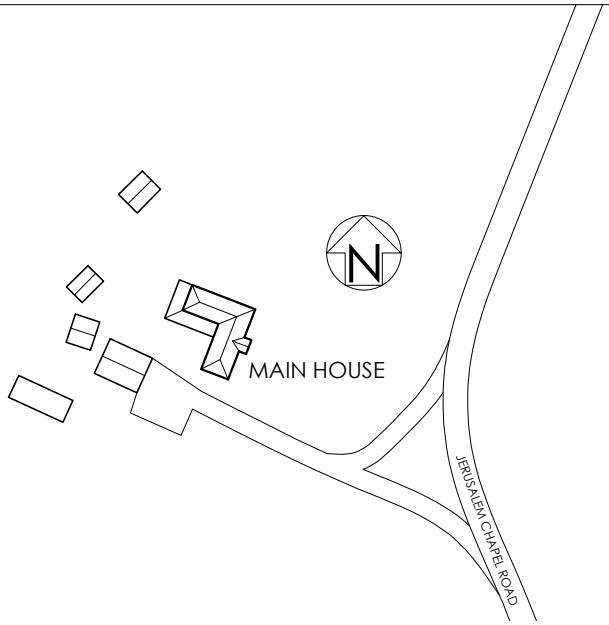
Nearest gravel wall building: Connor House Outbuilding (AU42) - 1.8 miles


Photo: Author, 2018.

The Baylor House is a two-story gravel wall house located near the community of Churchville, Virginia. The ca. 1870 house has a hipped roof and interior end chimneys, as well as a rear ell. An 1877 Staunton Spectator newspaper article mentions a concrete double house being built near the head of Whiskey Creek by Washington Baylor. It is unclear if the house the article referred to is the Baylor House. The lack of gravel wall houses in the area suggests that it was.



AU32 (Baylor House)



$\frac{1}{128}$" = 1'

Photo: McCleary, 1980.

On the back road from Buffalo Gap to Jenning's Gap, and near the head of whiskey creek, Washington Baylor has lately erected a handsome two-story, double house, *concrete*.

Photo: from *Staunton Spectator*, January 30, 1877.

AU33 (Ritchie House Outbuilding)

DHR# N/A

Status: Extant, unsurveyed
Historic Use: Outbuilding
Current Use: Outbuilding

Built: unknown
Source of date: N/A

Evidence of Construction:
Visual

Maps:
1864: not noted?
1870: not noted
1875: H. Huff?
1885: not noted

Prior Surveys: none

Stories: 1

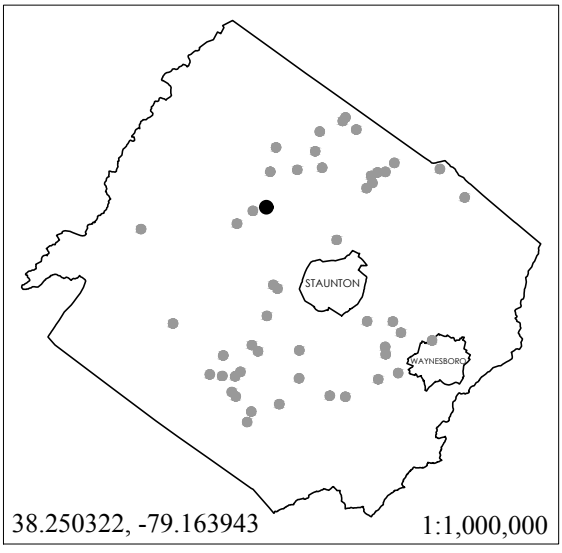
Bays: 1

Roof Shape: Gable

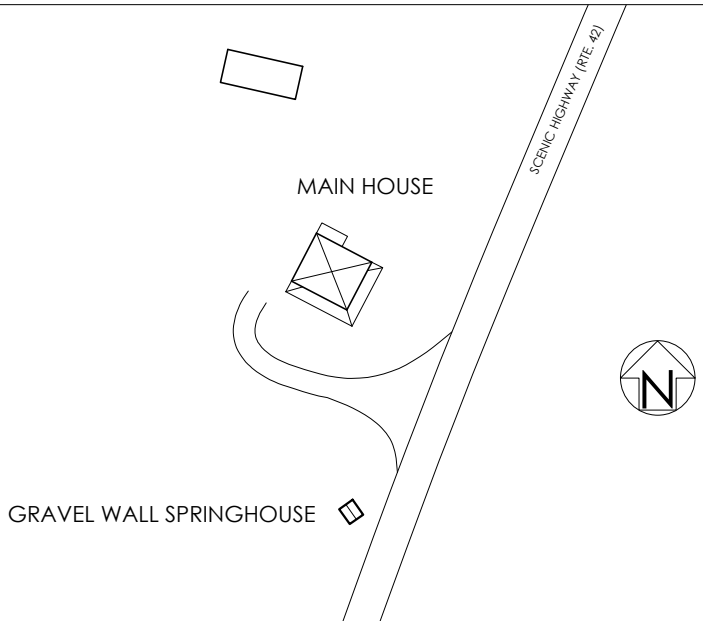
Nearest gravel wall building:
Connor House Outbuilding
(AU42) - 1.1 miles


Photo: Google Streetview, 2012.

The Ritchie House Outbuilding is a single-story gravel wall building located near the community of Churchville, Virginia. The outbuilding is associated with the Ritchie House. Neither building has been surveyed. Much of the outer stucco layer has deteriorated to a point where the gravel wall construction is visible.



AU33 (Ritchie House Outbuilding)



$\frac{1}{128}$" = 1'

Photo: Ritchie House, Google Streetview, 2012.

AU34 (Harnsberger Octagonal Barn)

DHR# 07-037 (Mt. Meridian Octagonal Barn)

Status: Extant, unsurveyed
Historic Use: Agricultural
Current Use: Agricultural

Built: 1867
Source of date: National Register of Historic Places nomination

Evidence of Construction: Prior surveys, NR nomination

Maps:
1864: not noted
1870: R. Harnsberger
1875: not noted
1885: D. Felgher

Prior Surveys: Multiple, including Ann McCleary, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), January 1979.

Stories: 1 with hay loft

Bays: N/A

Roof Shape: Octagonal, with monitor

Nearest gravel wall building: Tourje House (AU12) - 3.1 miles

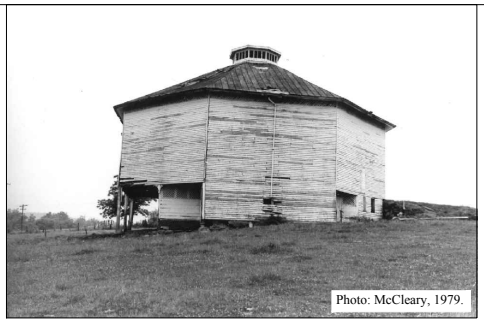
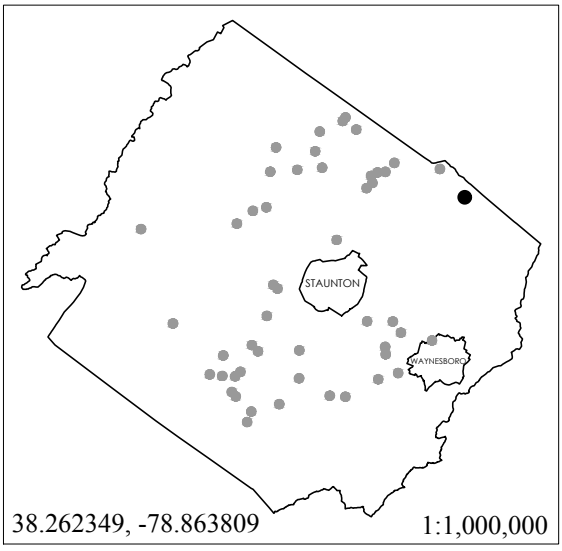


Photo: McCleary, 1979.

The Harnsberger Octagonal Barn is an octagonal barn located in the community of Mount Meridian, Virginia. The barn was built in 1867 for Robert Harnsberger and is the only octagonal building located in the county. Inspired from the octagonal house built in nearby Grottoes for his brother, Stephen Harnsberger, in 1857, Robert Harnsberger had this barn built. This building's unusual form and relationship with the Harnsberger octagonal house indicate that Orson Fowler's writings played an integral role in the barn's construction. According to local legend, William Evers was heavily involved in the construction of the barn.



AU34 (Harnsberger Octagonal Barn)

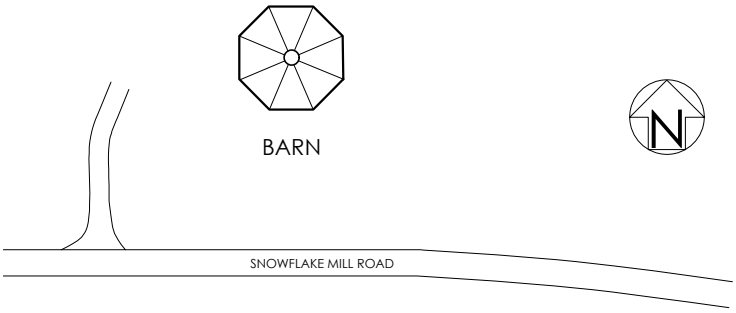


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Photo: G.P. Heffelfinger, 1973.

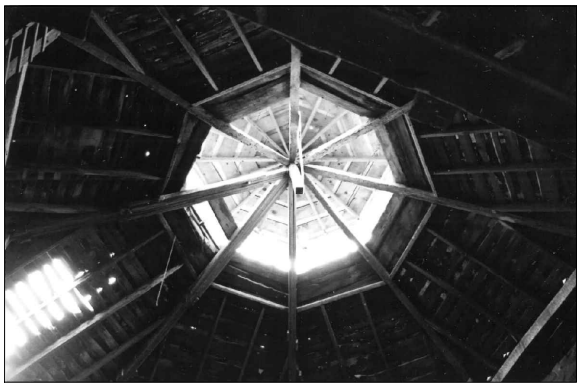


Photo: G.P. Heffelfinger, 1973.

AU35 (Mossy Creek Academy)

DHR# N/A

Status: Not extant, unsurveyed
Historic Use: Educational
Current Use: N/A

Built: 1867
Source of date: Newspaper reference (SS 9/12/1882)

Evidence of Construction: Newspaper reference

Maps:
1864: Academy
1870: Mossy Cr. Acad'y
1875: Mossy Creek Academy
1885: Mossy Creek Sch.Ho.No. 11

Prior Surveys: None

Stories: ?

Bays: ?

Roof Shape: ?

Nearest gravel wall building:
Robson House (AU30) - 0.7 miles

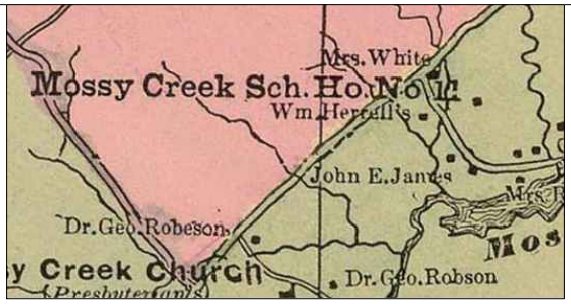
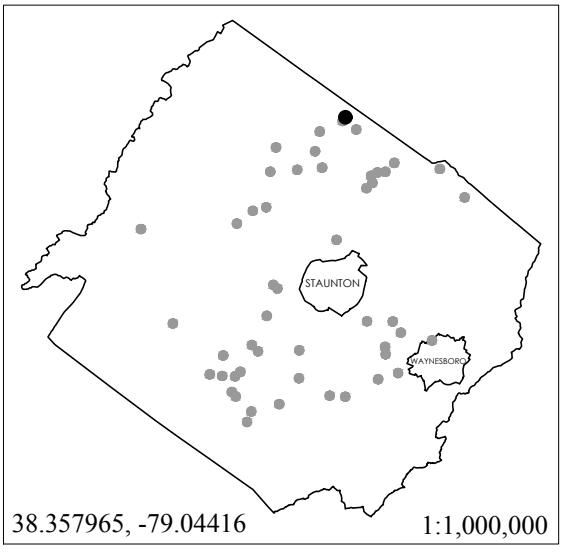
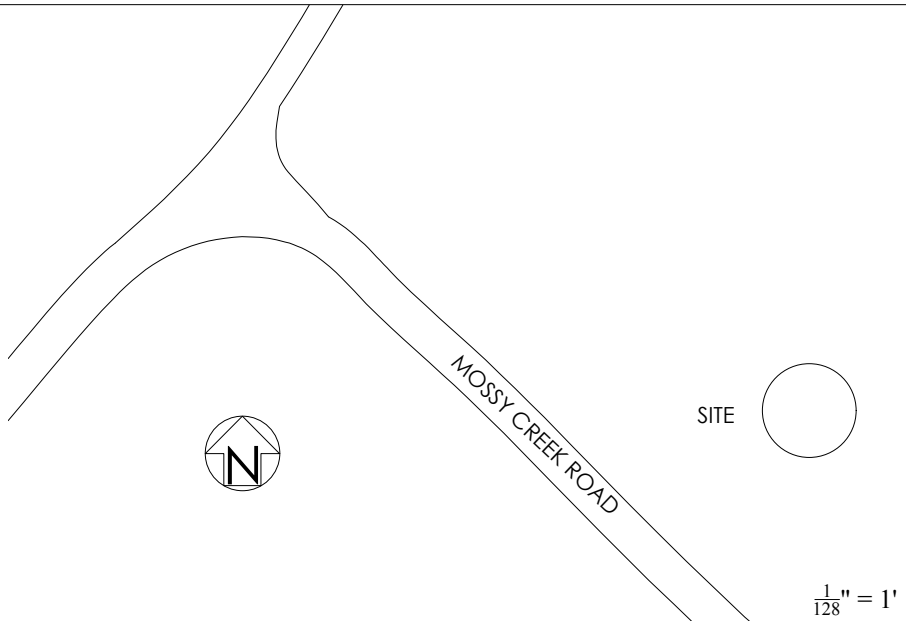


Photo: from 1885 Hotchkiss Atlas of Augusta County

The Mossy Creek Academy was built in 1867. Little is known of the building, except that it was built "out of the rubbish of the large and handsome Academy," which was burned during the Civil War. (*Staunton Spectator*, Sept. 12, 1882). The building was demolished sometime before 1963.



AU35 (Mossy Creek Academy)



and three dwellings. In 1867, Mossy Creek Academy, out of the rubbish of the large and handsome Academy, erected under the influence of Maj. Hotchkiss and the public spirit of a few individuals before the war, and burned by one —— Taylor, a detailed hand of Daniel Forrer at Elizabeth Furnace;

Photo: "The Concrete Building," *Staunton Spectator*, Sept. 12, 1882

AU36 (Crawford House)

DHR# N/A

Status: Extant, unsurveyed
Historic Use: Residential
Current Use: Residential

Built: unknown
Source of date: N/A

Evidence of Construction:
Reconnaissance Survey

Maps:
1864: Not included
1870: Not noted?
1875: Not noted
1885: Mrs. S.W. Patterson, Crawford Springs

Prior Surveys: None

Stories: 2

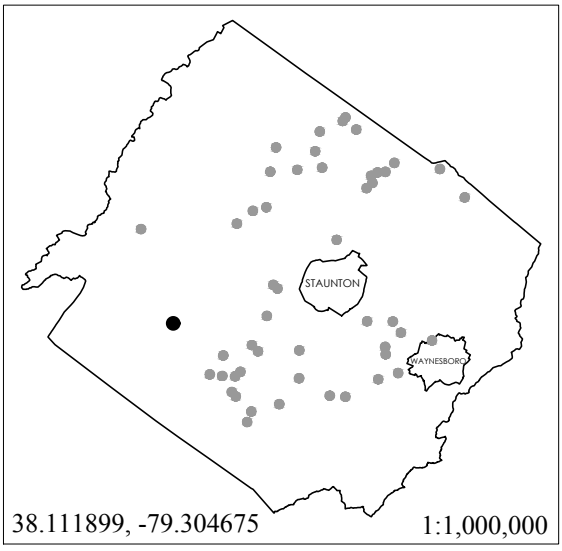
Bays: 3

Roof Shape: Gable

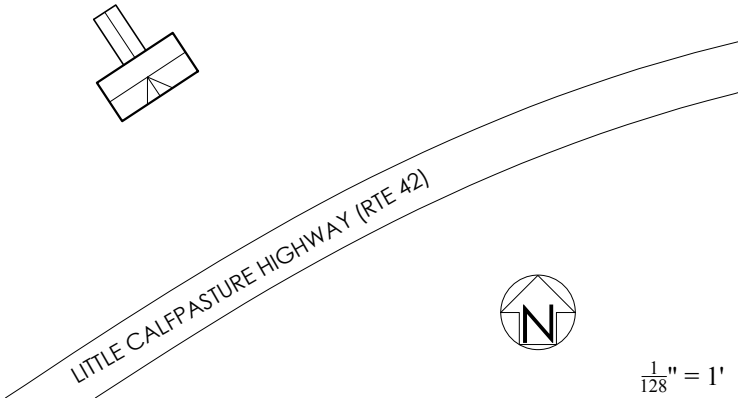
Nearest gravel wall building:
Hamilton House (AU4) - 4.9 miles


Photo: Google Streetview, 2012.

The Crawford House is a two-story gravel wall house located near the community of Augusta Springs, Virginia. The house has never been surveyed. Historically, records indicate that the house was associated with Crawford Springs, later known as Augusta Lithia Springs. Jedidiah Hotchkiss's 1886 Atlas of Augusta County notes this house in the cluster of buildings related to the spring.



AU36 (Crawford House)



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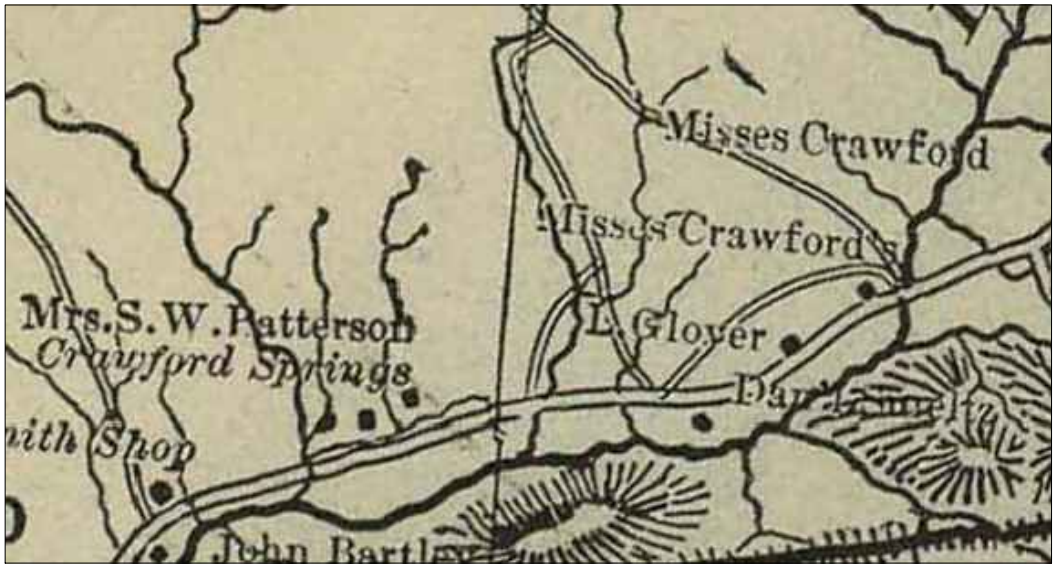


Photo: from Jedidiah Hotchkiss's atlas of Augusta County, 1885.

AU37 (Harnsberger House)

DHR# 07-5185

Status: Extant, unsurveyed
Historic Use: Residential
Current Use: Commercial (day care)

Built: ca. 1882
Source of date: Newspaper reference

Evidence of Construction: Newspaper reference, reconnaissance survey'

Maps:
1864: Not noted
1870: N/A
1875: Not noted
1885: Not noted?

Prior Surveys: Meghan Hesse (Gray & Pape), January 2009. S. DeChard (Cultural Resources, Inc.), June 2013. Both accessed at VDHR.

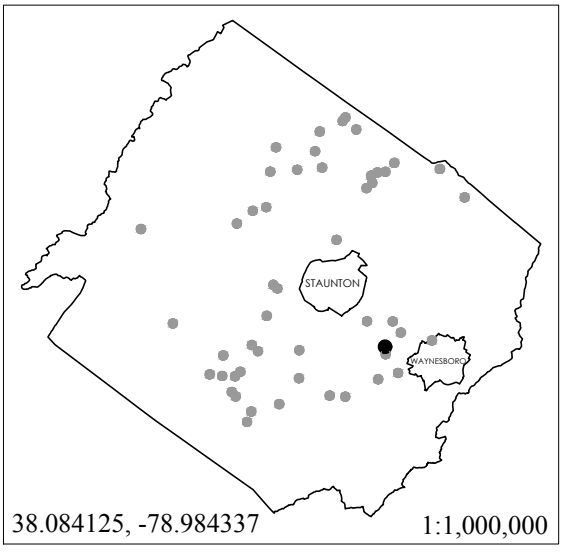
Stories: 2

Bays: 3

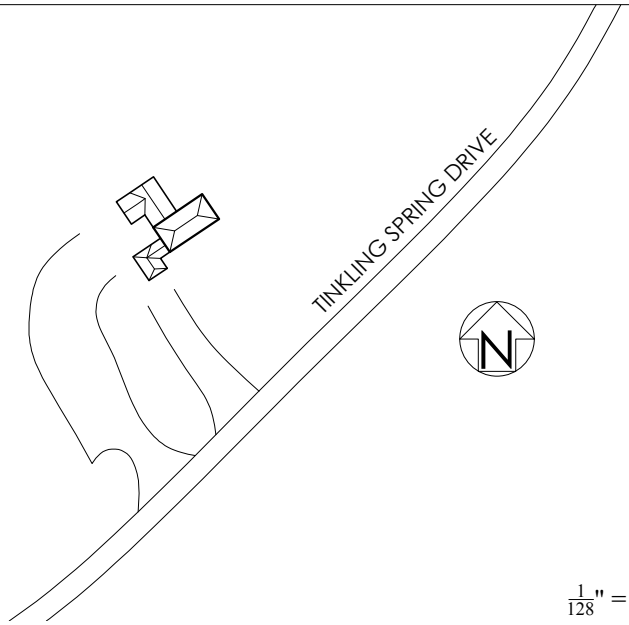
Roof Shape: Hipped

Nearest gravel wall building: Gilkeson House (AU46) - 0.6 miles

The Gilkeson House is a two-story gravel wall house located near the community of Fishersville, Virginia. Built ca. 1882 by William H. Peterson, the Gilkeson House exhibits typical architectural characteristics of the time. The house has a three bay facade, hipped roof, and interior end chimneys. A newspaper article from 1882 noted that Peterson was about to "close a contract with George Harnesbarger, near Tinkling Springs."



AU37 (Harnsberger House)



$\frac{1}{128}$" = 1'

Photos: DeChard, June 2013.

Photos: Hesse, January 2009.

AU38 (Hogshead House)

DHR# N/A

Status: Extant, unsurveyed
Historic Use: Residential
Current Use: Residential

Built: ca. 1859
Source of date: Newspaper reference (SS 9/12/1882)

Evidence of Construction: Newspaper references (SS 9/12/1882, SS 3/3/1863), reconnaissance survey

Maps:
1864: Hogshead
1870: D. Hogsett
1875: D. Hogshead
1885: Not noted

Prior Surveys: none

Stories: 2

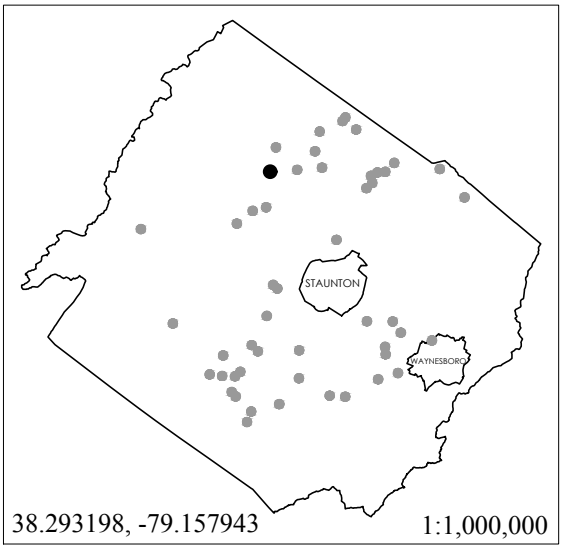
Bays: 3

Roof Shape: Gable

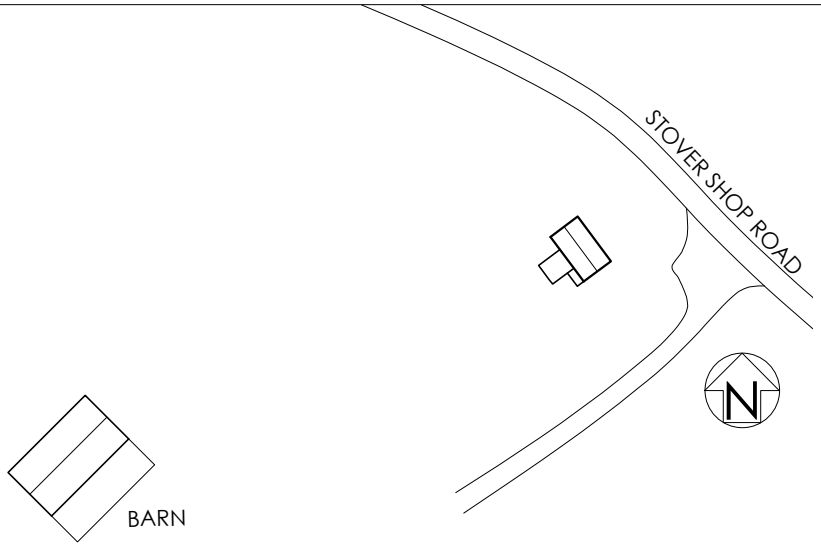
Nearest gravel wall building:
Sheets House (AU13) - 2.1 miles


Photo: Biggers, 2018.

The Hogshead House is a two-story gravel wall house located near the community of Stribling Springs, Virginia. The house was built in 1859 and is believed to be one of the earliest gravel wall buildings in Augusta County. An 1882 newspaper article noted that William H. Peterson "assisted George L. Obaugh with the Henry Hogshead house near Stribling Springs" in 1859. Additionally, an 1863 newspaper advertisement for the sale of his property referred to the Hogshead House as "a new Cement Residence."



AU38 (Hogshead House)



$\frac{1}{128}$" = 1'

LAND FOR SALE.—I desire to sell my farm, situated near Stribling Springs, on the Mt. Solon road. It contains about 150 acres; it has on it a new Cement Residence; water in every field, about 25 acres well timbered, the rest cleared and in cultivation—mostly in grass, well set. The land is very productive of grain and grasses; is in a good neighborhood, convenient to churches and schools.

I will take pleasure in exhibiting the land to any one wishing to see it, and will make the terms to suit the purchaser. HENRY S. HOGSETT,

Feb 24—4t*

Photo: *Staunton Spectator*, March 3, 1863.

AU39 (Bell House)

DHR# N/A

Status: Extant, unsurveyed
Historic Use: Residential
Current Use: Residential

Built: ca. 1883
Source of date: Newspaper reference (SS 7/24/1883)

Evidence of Construction: Newspaper reference, reconnaissance survey

Maps:
1864: Not noted
1870: Col. D.S. Bell
1875: Not noted
1885: Col. __ S. Bell

Prior Surveys: none

Stories: 2

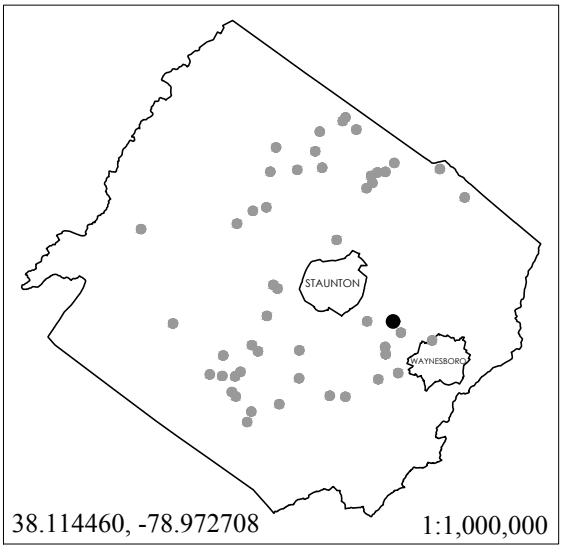
Bays: 3

Roof Shape: Gable

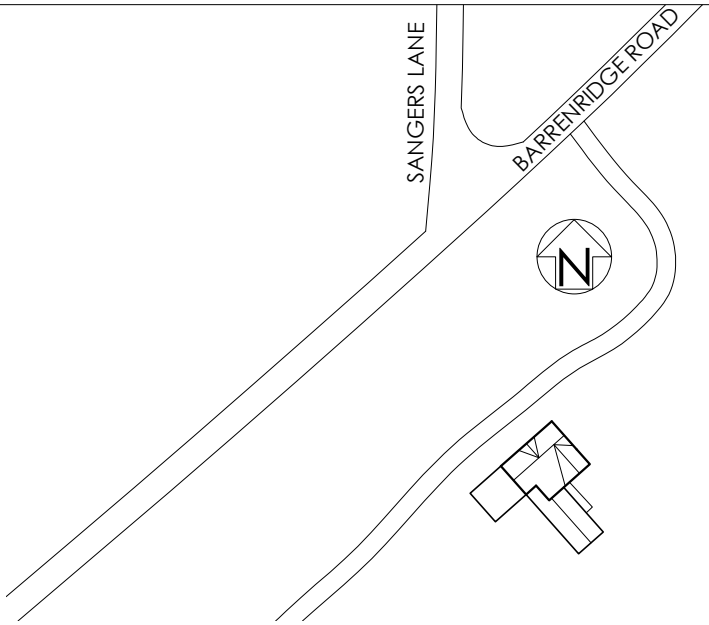
Nearest gravel wall building:
Watson House (AU40) - 1.1 miles


Photo: Biggers, 2018.

The Bell House is a two-story gravel wall house located near the community of Fishersville, Virginia. The house was built in 1883 for Col. Bell at the same time as the Watson House (AU40) and the Gilkeson House (AU46). The house's gable roof, front cross gable, and three-bay facade are typical of its 1880s date. The building bears similarity to the Sensabaugh House (AU1) and the Peyton House (AU11) in its massing and roof shape.



AU39 (Bell House)



$\frac{1}{128}$" = 1'

Dr. Watson and Col. D. S. Bell have each built concrete houses during the past fall, yet unfinished. The first, on a part of the John Porterfield farm, (John and Sam. Brown,) and the latter, on Barren Ridge, at the west end of a vineyard he planted years ago.

Photo: *Staunton Spectator*, January 22, 1884.

AU40 (Watson House)

DHR# N/A

Status: Demolished, unsurveyed
Historic Use: Residential
Current Use: N/A

Built: ca. 1883
Source of date: Newspaper reference (SS 7/24/1883)

Evidence of Construction: Newspaper reference

Maps:
1864: Not noted
1870: N/A
1875: Not noted
1885: Dr. M. Watson

Prior Surveys: none

Stories: ?

Bays: ?

Roof Shape: ?

Nearest gravel wall building:
Bell House (AU39) - 1.1 miles

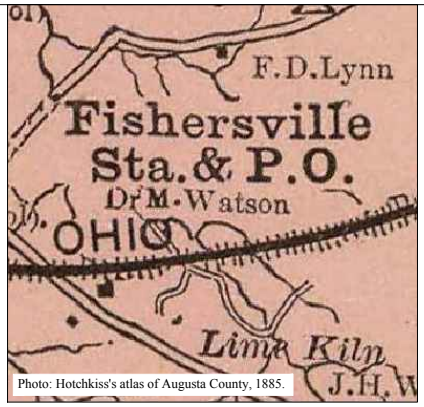
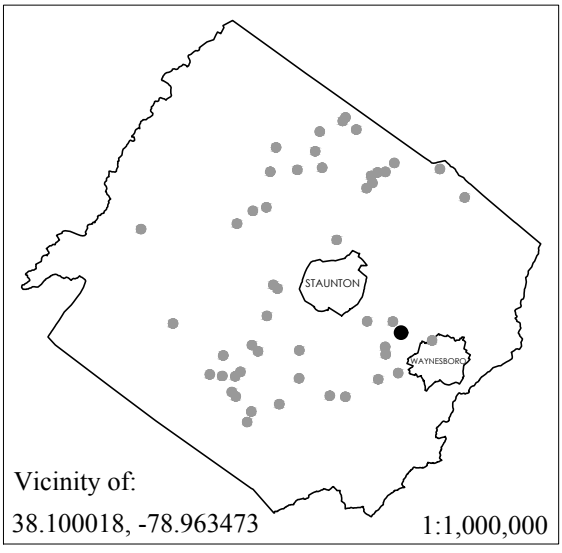


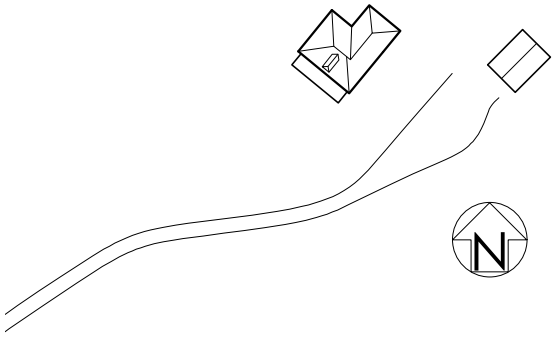
Photo: Hotchkiss's atlas of Augusta County, 1885.

The Watson House was a gravel wall house located in the village of Fishersville, Virginia. The house was built in 1883 at the same time as the Bell House (AU39) and the Gilkeson House (AU46). The exact location of the house was not determined as part of this study, but it appears to have been located in close proximity to the Chesapeake & Ohio railroad. The house was torn down sometime before 1963, as indicated by aerial images.



AU40 (Watson House)

CURRENT HOUSE (POSSIBLY ON SITE OF WATSON HOUSE)



$\frac{1}{128}$" = 1'

Dr. Watson and Col. D. S. Bell have each built concrete houses during the past fall, yet unfinished. The first, on a part of the John Porterfield farm, (John and Sam. Brown,) and the latter, on Barren Ridge, at the west end of a vineyard he planted years ago.

Photo: *Staunton Spectator*, January 22, 1884.

AU41 (Great Oaks)

DHR# 07-5126

Status: Extant, unsurveyed
Historic Use: Residential
Current Use: Residential

Built: ca. 1870
Source of date: Prior survey

Evidence of Construction:
Prior survey

Maps:
1864: Not noted
1870: Not noted
1875: Not noted
1885: Not noted

Prior Surveys: Kitty Houston, November 2004 (accessed at VDHR).

Stories: 2

Bays: 3

Roof Shape: Gable

Nearest gravel wall building:
Hunter House (AU18) - 2.4 miles

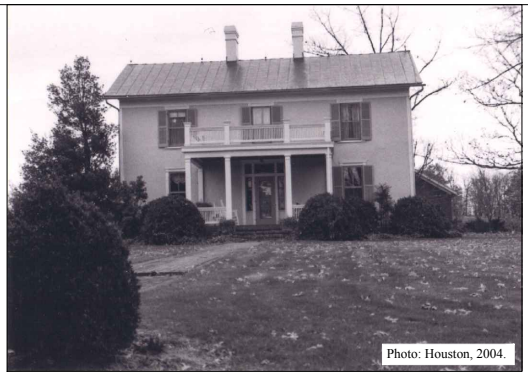
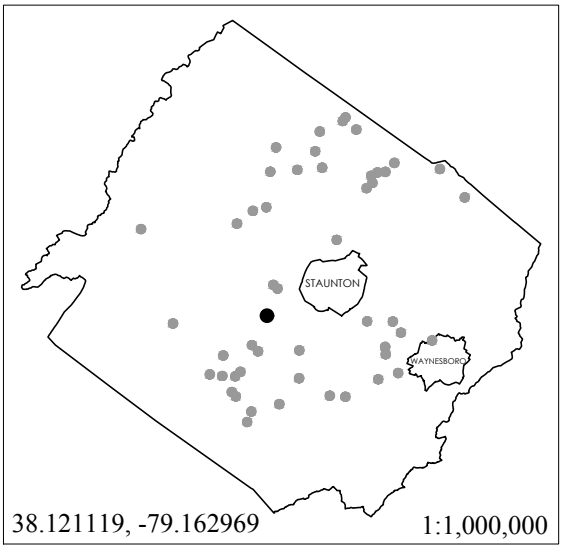
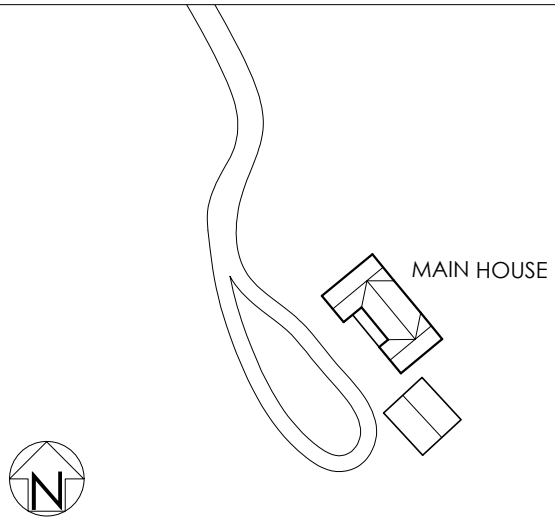


Photo: Houston, 2004.

Great Oaks is a two-story gravel wall house located near the community of Arbor Hill, Virginia. A prior survey estimated the date of construction to be circa 1870, but the absence of the house on period maps suggests a post-1885 date. Also consistent with a later date is are the paired central chimneys and the Italianate front entrance. The only previous survey, in 2004, did not include an interior inspection, so the plan type is unknown, although the proportions of the house are consistent with the I-house form.



AU41 (Great Oaks)



$\frac{1}{128}$" = 1'

Photo: Houston, 2004.

AU42 (Connor House Outbuilding)

DHR# N/A

Status: Extant, unsurveyed
Historic Use: Ancillary
Current Use: Ancillary

Built: unknown
Source of date: N/A

Evidence of Construction:
Reconnaissance survey

Maps:
1864: Not included
1870: Not noted?
1875: Not noted
1885: Mrs. J.E. Dunlap?

Prior Surveys: none

Stories: 1

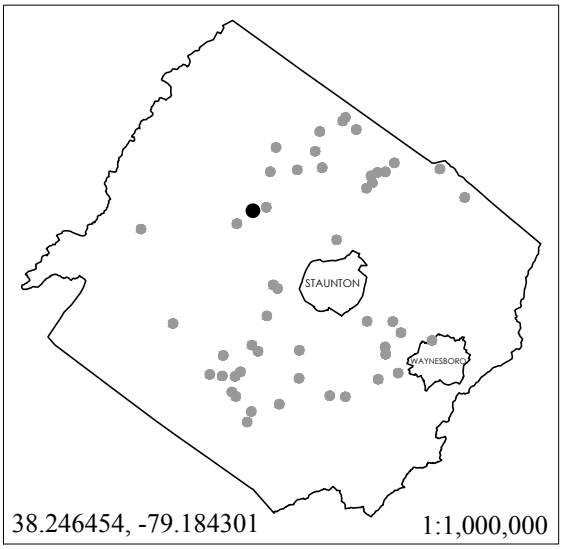
Bays: 1

Roof Shape: Gable

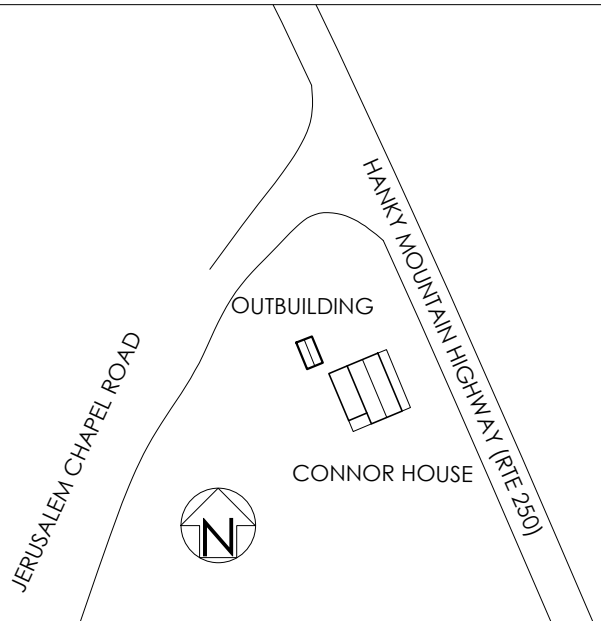
Nearest gravel wall building:
Ritchie House Outbuilding
(AU33) - 1.1 miles


Photo: Google Streetview, 2009.

The Connor House Outbuilding is a single-story outbuilding located near the village of Churchville, Virginia. The outbuilding has never been surveyed and was not surveyed as part of this study. Its close proximity to the Ritchie House Outbuilding could suggest a trend toward gravel wall construction in ancillary buildings near Churchville.



AU42 (Connor House Outbuilding)



$\frac{1}{128}$" = 1'

Photo: Google Streeview, 2009.

AU43 (Elias Kindig House)

DHR# 07-235 (Rufus Kindig House)

Status: Demolished, unsurveyed
Historic Use: Residential
Current Use: N/A

Built: 1869
Source of date: Newspaper reference (SS 9/12/1882)

Evidence of Construction: Newspaper reference, prior survey

Maps:
1864: Not included
1870: E. Kindig
1875: Not noted
1885: Mrs. E. Kindig

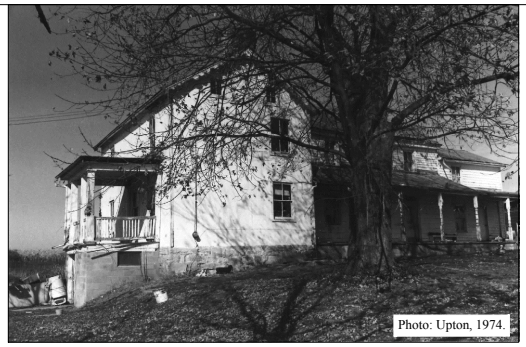
Prior Surveys: Ann McCleary, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), November 1981. Dell Upton, VHLC, November 1974.

Stories: 2

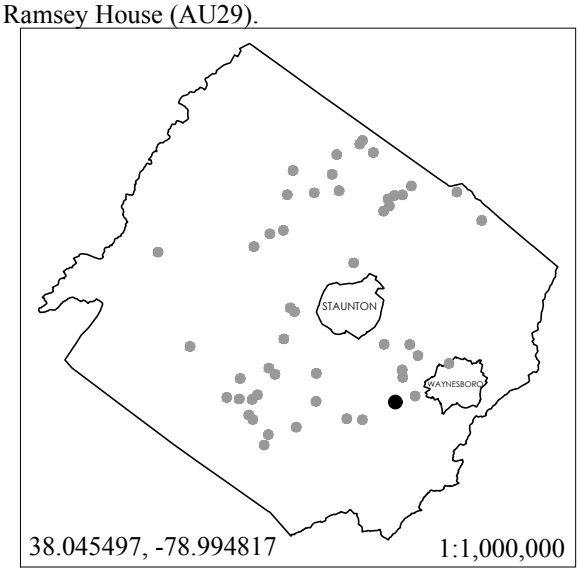
Bays: 3

Roof Shape: Gable

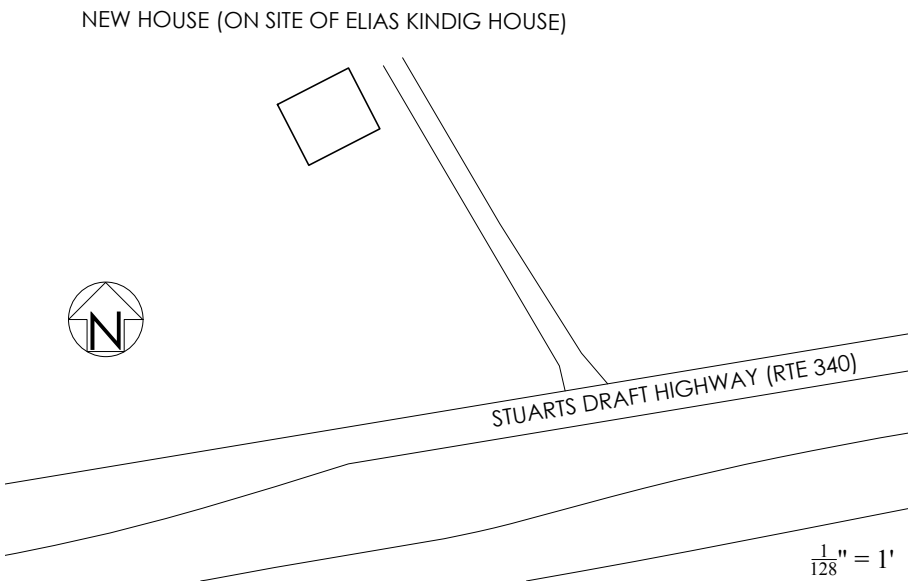
Nearest gravel wall building: Grove House Outbuildings (AU19) - 1.7 miles

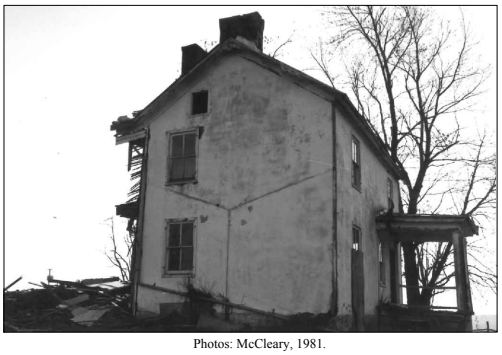


The Elias Kindig House was a two-story gravel wall house located near the village of Stuarts Draft, Virginia. Built in 1869 by William H. Peterson, the house had an unusual asymmetrical three-bay facade. While its facade was unusual, other architectural features bore resemblance to other gravel wall examples in the county. The house's decorative bargeboard was similar to that of the Cox House (AU8) and the May House (AU14). Also similar with the May House was the paired attic lights in the gable end. The house served as an addition to an already-existing two-story log house, a situation similar to numerous gravel wall examples in the county, including the McClung House (AU22) and the Ramsey House (AU29).



AU43 (Elias Kindig House)





Photos: McCleary, 1981.

Photos: Upton, 1974.

AU44 (Lightner House)

DHR# N/A

Status: Extant, unsurveyed
Historic Use: Residential
Current Use: Residential

Built: 1898
Source of date: Newspaper reference (SSV 11/10/1898)

Evidence of Construction: Newspaper reference, reconnaissance survey

Maps:
1864: Kenny
1870: Not noted
1875: Not noted
1885: Not noted

Prior Surveys: None

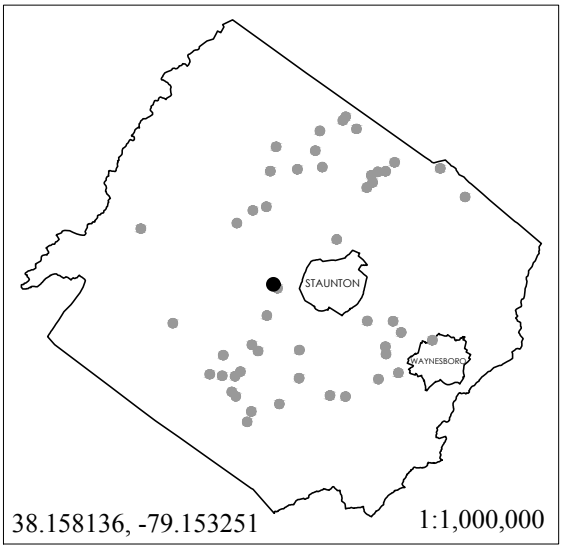
Stories: 2

Bays: 3

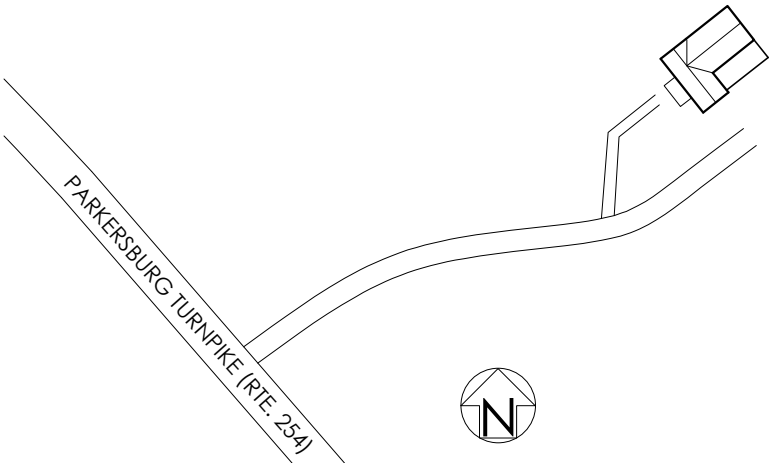
Roof Shape: Gable

Nearest gravel wall building: Hunter House (AU18) - 0.5 miles

The Lightner House was constructed ca. 1898 and is located between Staunton and West View, Virginia. A newspaper clipping refers to the construction of what is believed to be this house in 1898. The house is located very near the Hunter House, which architecturally also points toward a late 19th century construction date. The two-story portico is an unusual feature for gravel wall houses, but the interior gable end chimneys and gable roof is consistent with the Sensabaugh House (AU1), another late 19th century gravel wall house.



AU44 (Lightner House)



$\frac{1}{128}$" = 1'


Photo: Google Earth, 2018.

Mrs. Charles Lightner will soon move into her handsome new concrete dwelling, which has been built during the past season. It is beautifully located on the Parkersburg pike between West View and Staunton.

Staunton Spectator and Vindicator, 11/10/1898.

AU45 (Maupin House)

DHR# N/A

Status: Demolished, unsurveyed
Historic Use: Residential
Current Use: N/A

Built: 1882
Source of date: Newspaper reference (SS 9/12/1882)

Evidence of Construction: Newspaper reference

Maps:
1864: Not included
1870: Not noted
1875: Not noted
1885: J.T. Maupin

Prior Surveys: None

Stories: ?

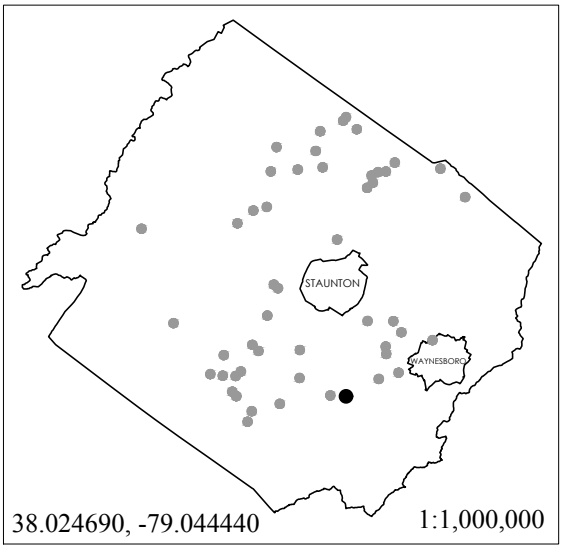
Bays: ?

Roof Shape: ?

Nearest gravel wall building: William Glenn House (AU27) - 1.3 miles


Photo: 2018 Google Earth aerial

The Maupin House was constructed ca. 1882 by William H. Peterson near the village of Stuarts Draft, Virginia. As the newspaper clipping below suggests, the house was apparently held in high esteem, and the timing of the construction (coinciding with the completion of the local branch of the Shenandoah Valley Railroad in 1882) backs this assertion. The house was demolished between 1972 and 1982 according to aerials, and no photos or architectural surveys exist in the public domain.



AU45 (Maupin House)

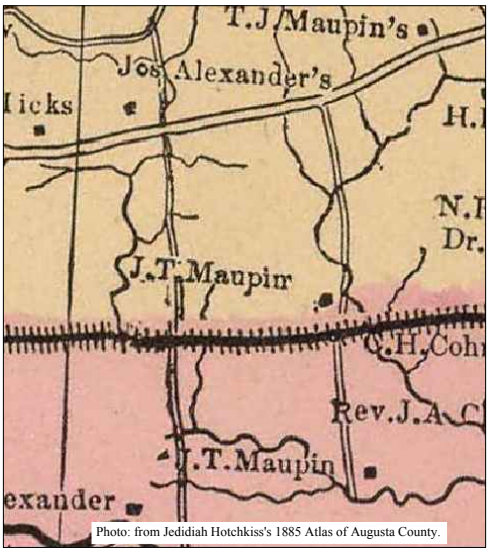


Photo: from Jedidiah Hotchkiss's 1885 Atlas of Augusta County.

and two others. A house erected for James Thomas Maupin, on Shenandoah Valley Railroad, perhaps in this year, a neighbor said to the writer he regarded one of the finest in the county. Young

Staunton Spectator, 9/12/1882.

AU46 (Gilkeson House)

DHR# N/A

Status: Demolished, unsurveyed
Historic Use: Residential
Current Use: N/A

Built: 1883
Source of date: Newspaper reference (SS 7/24/1883)

Evidence of Construction: Newspaper reference

Maps:
1864: Not noted
1870: Not noted
1875: Not noted
1885: Wm. F. Gilkeson

Prior Surveys: None

Stories: 2

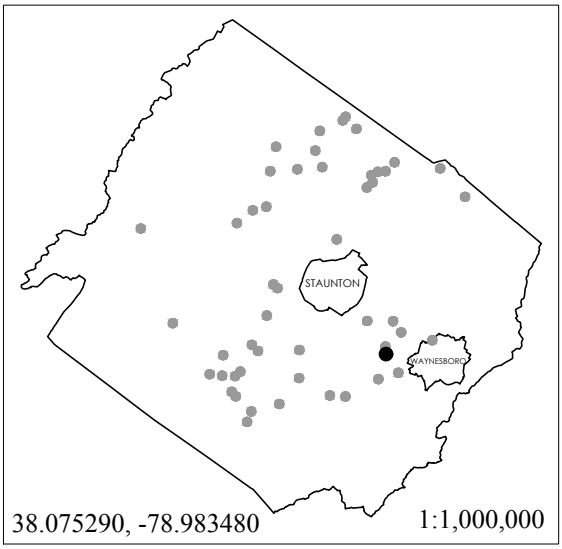
Bays: 3

Roof Shape: Hipped

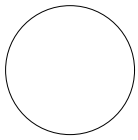
Nearest gravel wall building: Harnsberger House (AU37) - 0.6 miles


Photo: Vintage Aerial, 1976.

The Gilkeson House was was a ca. 1883 gravel wall house near the village of Fishersville, Virginia. The house was constructed at the same time as the Bell House (AU39) and the Watson House (AU40). The house had a hipped roof and interior end chimneys, much like the nearby Harnsberger House (AU37). Unlike the Harnsberger House, the Gilkeson House has a rear ell that is extensive. The house was demolished between 2003 and 2007 according to aerials, and the above photo is the only photo in the public domain.



AU46 (Gilkeson House)



HOUSE SITE

$\frac{1}{128}$" = 1'

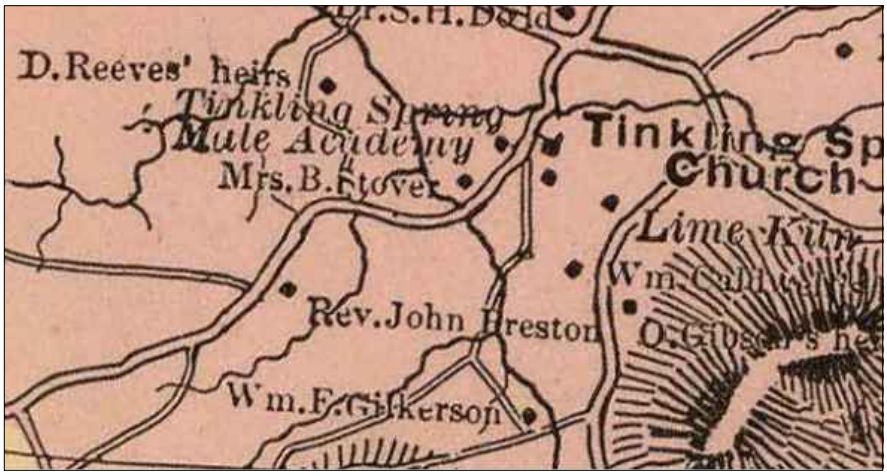


Photo: from Jedidiah Hotchkiss's 1885 Atlas of Augusta County.

Wm. F. Gilkeson is building a concrete house near Tinkling Spring church. Several new barns are being built in the vicinity.

Photo: *Staunton Spectator*, July 24, 1883.

AU47 (Garrison Tenant House)

DHR# 07-640 (J.S. Garrison's Tenant House)

Status: Demolished, unsurveyed
Historic Use: Residential
Current Use: Residential

Built: ca. 1860-1890
Source of date: Prior survey

Evidence of Construction: Prior survey

Maps:
1864: Not included
1870: Not noted
1875: Not noted
1885: J.S. Garrison's

Prior Surveys: Ann McCleary, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), June 1980.

Stories: 1

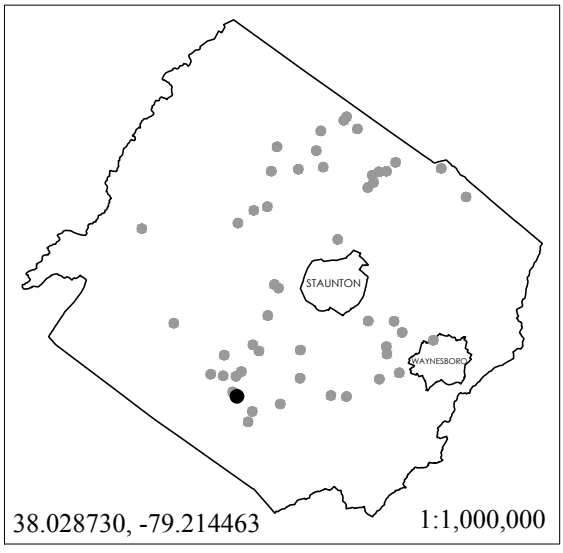
Bays: 1

Roof Shape: Gable

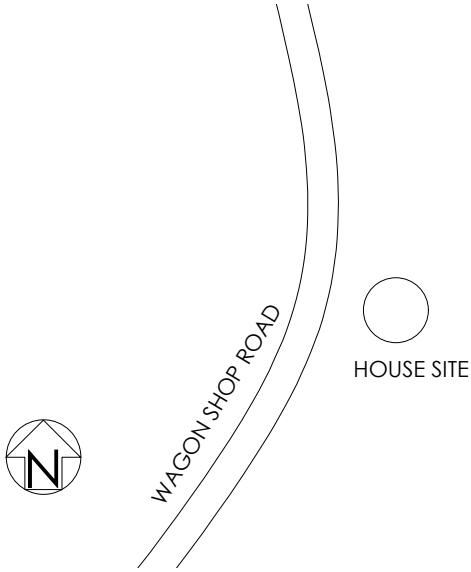
Nearest gravel wall building: Garrison House (AU16) - 0.1 miles


Photo: McCleary, 1980.

The Garrison Tenant House was a combination log and gravel wall house located near the village of Middlebrook, Virginia. The two-story log portion dates to ca. 1860, while Ann McCleary suggested that the single-story gravel wall addition likely dated to the same time as the Garrison House (1879). Unusual with the gravel wall addition is that the attic level of the gable end has clapboard siding. The entire house was demolished recently.



AU47 (Garrison Tenant House)



$\frac{1}{128}$" = 1'

Photos: McCleary, 1980.

AU48 (Craushorn House)

DHR# 07-1099 (Lottie Craushorn House)

Status: Extant, unsurveyed
Historic Use: Residential
Current Use: Residential

Built: ca. 1870
Source of date: Prior survey

Evidence of Construction: Prior survey

Maps:
1864: Not noted
1870: Mrs. Landes
1875: Landers
1885: Nicholas Craushorn

Prior Surveys: Ann McCleary, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), June 1980. J.W. Apperson, Historical Inventory Project (AU307), WPA, February 1938.

Stories: 2

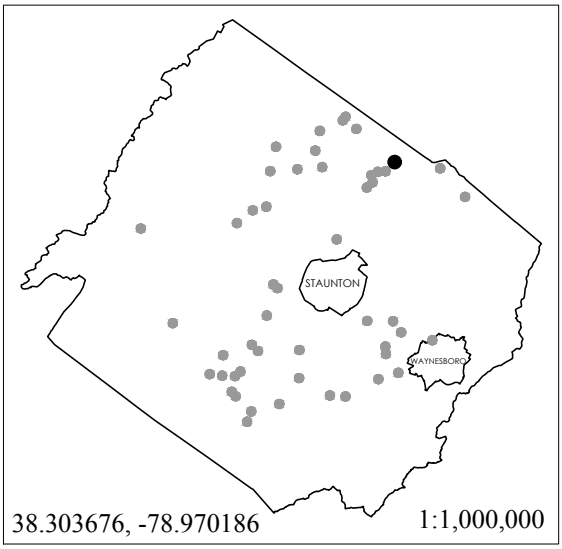
Bays: 3

Roof Shape: Gable, with cross gable

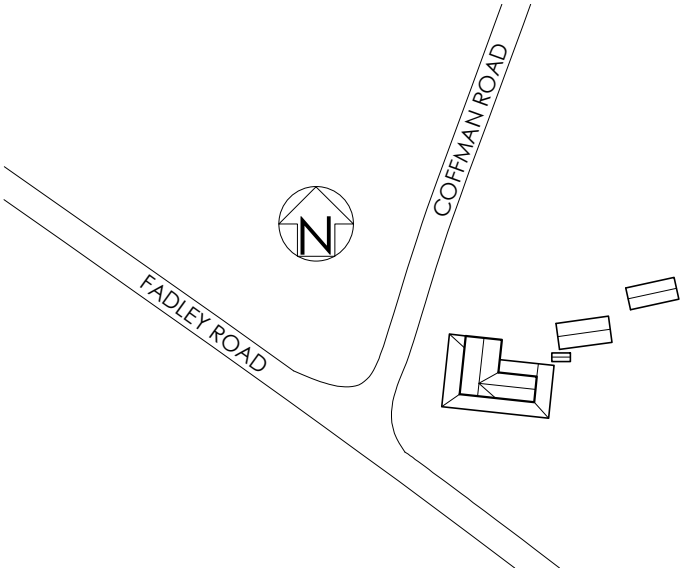
Nearest gravel wall building: Mt. Pleasant Church (AU9) - 1.0 miles

Photo: Vintage Aerial, 1982.

The Craushorn House is a two-story gravel wall house located near the community of Roman, Virginia. A 1938 survey of the house argued that the current house was built ca. 1870 to replace an earlier log house. The house is located in a dense cluster of gravel wall buildings near Roman. The integral ell and front cross gable suggest a post-1880 date, but the interior gable end chimneys indicate an earlier date. The initial estimate of 1870 could be correct. Sometime after 1982, the house was clad in siding, which has made the house unidentifiable as a gravel wall house from reconnaissance survey.



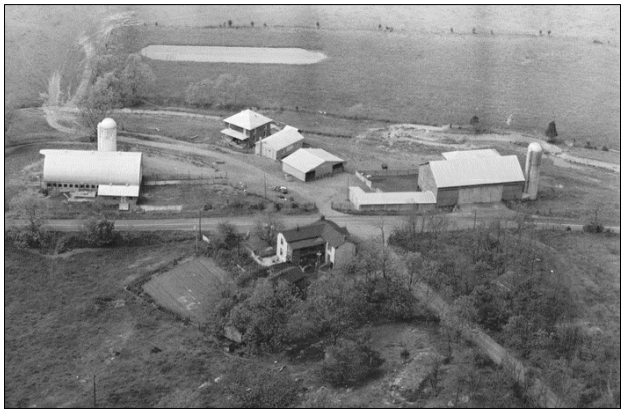
AU48 (Craushorn House)



$\frac{1}{128}$" = 1'

Photo: Google Streetview, 2017.

Photo: Vintage Aerial, 1982.



AU49 (Shields House)

DHR# 07-921 (J.T. Shields House)

Status: Extant, unsurveyed
Historic Use: Residential
Current Use: Residential

Built: ca. 1860-1880
Source of date: Prior survey

Evidence of Construction:
Prior survey

Maps:
1864: Not included
1870: John Shields
1875: Not noted
1885: J.T. Shields

Prior Surveys: Ann McCleary, Virginia Historic Landmarks Commission (now Virginia Department of Historic Resources), November 1981.

Stories: 2

Bays: 3

Roof Shape: Gable

Nearest gravel wall building:
George Ramsey (AU29) - 2.3 miles

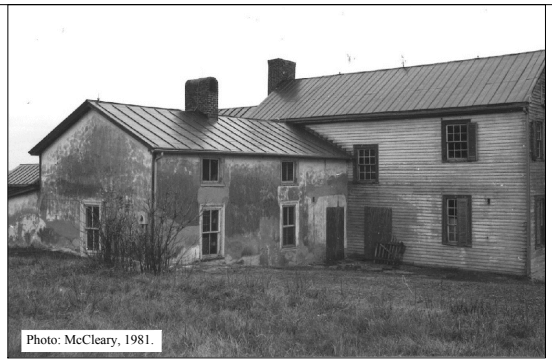
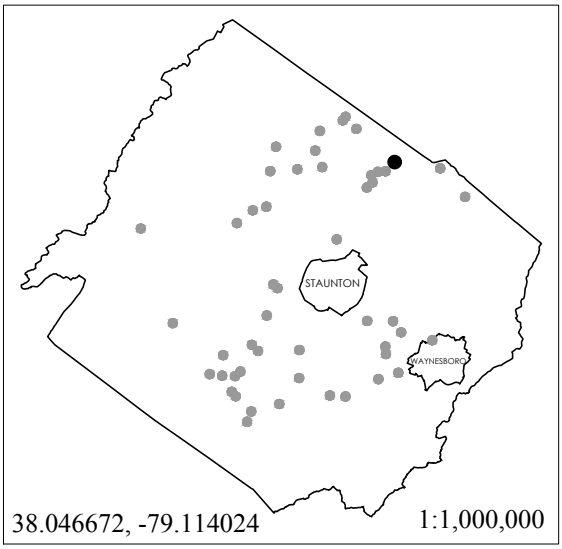
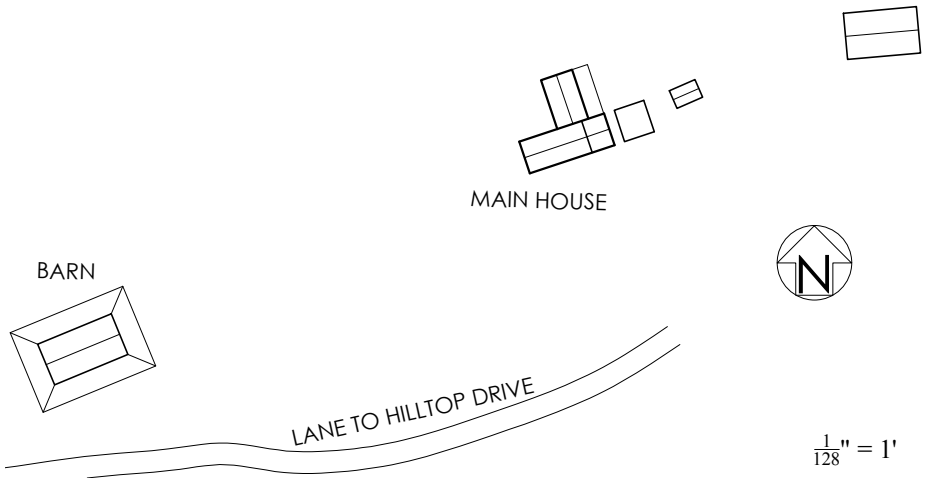


Photo: McCleary, 1981.

The Shields House is a combination frame and gravel wall house located near the community of Mint Spring, Virginia. The original portion of the house is the front, two-story frame section and dates to ca. 1840. Between 1860 and 1880, the two-story gravel wall ell was added onto the rear of the house. The ell plan followed the typical two-room plan with a central chimney that served both rooms.



AU49 (Shields House)



Gravel wall ell, south room mantel. Photo: McCleary, 1981.

Front elevation of the house. Photo: McCleary, 1981.

AU50 (Pleasant View Church)

DHR# N/A

Status: Demolished, unsurveyed
Historic Use: Religious
Current Use: N/A

Built: 1879
Source of date: Newspaper reference (SS 6/24/1879), compiled church history

Evidence of Construction: Newspaper reference

Maps:
1864: Not noted
1870: Not noted
1875: Not noted
1885: Pleasant View Church (Lutheran)

Prior Surveys: none

Stories: 1

Bays: 2

Roof Shape: Gable

Nearest gravel wall building: Cox House (AU8) - 4.9 miles

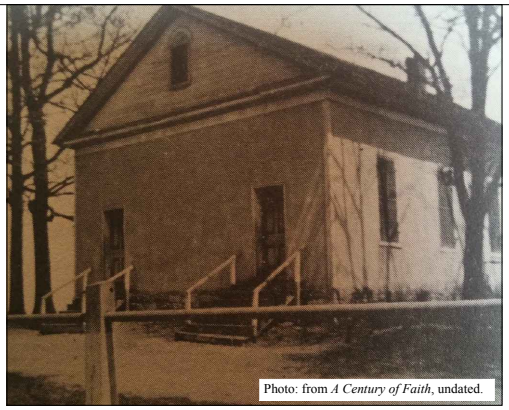
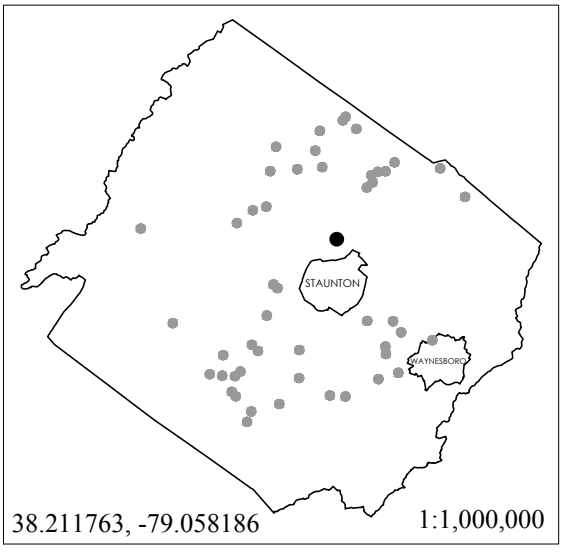
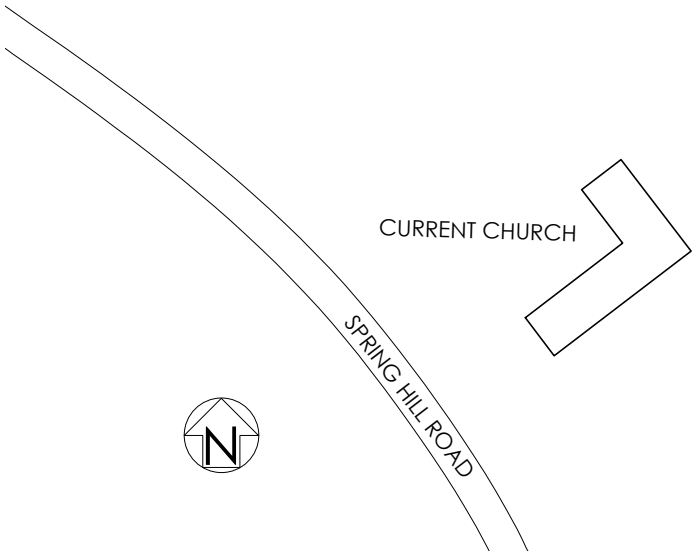


Photo: from *A Century of Faith*, undated.

The Pleasant View Lutheran Church was a single-story church located near the city of Staunton, Virginia. Built in 1879, the church's dedication was announced in the *Staunton Spectator* in an article which also detailed the names of the craftsmen who were involved in the construction of the building. The church stood until the congregation erected the current building in 1917 on the same spot. The church is in relatively close proximity to the gravel wall Mount Pleasant Mennonite Church (AU9).



AU50 (Pleasant View Church)



$\frac{1}{128}$" = 1'

Photo: from *A Century of Faith*, turn of the twentieth century.

Appendix B: Timeline of Newspaper References

The timeline that follows the construction of gravel wall buildings is based on extracts from historic newspaper records. The format is as follows:

(Location/Site) Building name – Newspaper Reference – Builder [if noted]

Key:

AU23	Augusta County site 23
AU__	Augusta County site of unknown location
_?_	Unknown location
RC	Rockingham County
HC	Highland County
RBC	Rockbridge County
SS	*Staunton Spectator* newspaper
SSV	*Staunton Spectator and Vindicator* newspaper
GB	*Greenville Banner* newspaper

1857

(RC) Castle-Leeth – SS 9/12/1882

1859

(AU23) McCue House – SS 9/12/1882 – Wm. Peterson
+ 2 other small houses
(AU38) Henry Hogshead House – SS 9/12/1882 – Wm. Peterson and George L. Obaugh

1860

(AU23) McCue House Kitchen – SS 9/12/1882 – Wm. Peterson
(RC) Conrad Senger (Mt. Clinton) – SS 9/12/1882 – Wm. Peterson
+ 4 other buildings

1865

(AU20) Washington Swink's House – SS 9/12/1882 – Wm. Peterson
(RC) McCue's father's house – SS 9/12/1882 – Wm. Peterson

1866

(HC) Monterey Academy – SS 9/12/1882 – Wm. Peterson
+ 3 dwellings

1867

(AU35) Mossy Creek Academy – SS 9/12/1882 – Wm. Peterson
(_?_) 3 dwellings for Col. Mike Harman – 9/12/1882 – Wm. Peterson
(AU__) 1 dwelling for Morgan Hogshead – 9/12/1882 – Wm. Peterson

1868

(HC) Henry C. Jones – SS 9/12/1882 – Wm. Peterson
+ 7 others

1869

(AU43) Elias Kindig's house – SS 9/12/1882 – Wm. Peterson
+ 4 others

1870

(_?_) John Herring's house – SS 9/12/1882 – Wm. Peterson
+ 2 others

1871

(AU30) Dr. Robson's House – SS 9/12/1882 – Wm. Peterson
+ 2 others

1872

(_?_) John Davis Arbuckle's house – SS 9/12/1882 – Wm. Peterson
+ 4 others

1873

(AU31) Rev. Beard's House – SS 9/12/1882 – Wm. Peterson
+ 3 others

1874

(HC) McDowell Methodist Church – SS 9/12/1882 – Wm. Peterson
+ 6 others

1875

(RC) Dayton Schoolhouse – SS 9/12/1882 – Wm. Peterson
+ 4 others

1876

(RC) Ed. S. Calver's house in Mt. Jackson – SS 9/12/1882 – Wm. Peterson

1877

(AU32?) Washington Baylor House – SS 1/30/1877
(_?_) Grange Hall of New Hampden – SS 9/12/1882 – Wm. Peterson
+ 3 others

1878

(AU__) Col. Meredith Hogshead's house – SS 9/12/1882 – Wm. Peterson
+ 3 others

1879

(AU50) Pleasant View Church – SS 6/24/1879 – Elisha Curry
(AU16) Jacob Garrison's house – SS 9/12/1882 – Wm. Peterson
+ 3 others

1880

(AC) Capt. Jerry Early's house – SS 9/12/1882 – Wm. Peterson
+ 3 others

1881

(RBC) Philip Hileman's house in Lexington – SS 9/12/1882 – Wm. Peterson
+ 2 others
(AU15?) New concrete house for sale near Middlebrook – SS 7/5/1881

1882

(AU24) Mrs. Mary McGuffin – SS 9/12/1882 – Wm. Peterson
(AU11) Col. Peyton House – SS 9/12/1882 – Wm. Peterson
(AU22) B.F. McClung House – SS 9/12/1882 – Wm. Peterson
(AU__) Baptist Church (colored) near Staunton – SS 9/12/1882 – Wm. Peterson
(AU37?) George Harnsbarger – SS 9/12/1882 – Wm. Peterson
(RBC) W.F. Womelford's mansion – SS 9/12/1882 – Wm. Peterson
(AU45) James Thomas Maupin's house – SS 9/12/1882 – Wm. Peterson

1883

(AU40) Watson House – SS 1/22/1884
(AU39) Col. Bell House – SS 1/22/1884
(AU46) Wm. F. Gilkeson's house – SS 7/24/1883

1884

(AU17) Grace Church Parsonage – GB 8/20/1884 – G.W. Peterson
(AU15?) C.T. Palmer's new concrete house – GB 9/17/1884

1887

(AU14) J.T. Hiner's new house to be built – SS 4/27/1887

1892

(AU1) Baylor's House – SS 8/10/1892 – Mr. Peterson

1898

(AU44?) Mrs. Charles Lightner's new house – SSV 11/10/1898

Appendix C: Mortar Analysis Sheets

Mortar Analysis	
Sample number: AU1	
Building: Sensabaugh House (AU1)	
Location: Middlebrook, Virginia vicinity	Date sampled: 8/3/2017
Analysis performed by: Sam Biggers	Date analyzed: 11/5/2017-11/20/2017
Description of sample	
Location: Exterior wall, taken from basement interior	Sample: gravel wall material
Gross weight (before incubation): 32.26 g	
Gross sample: 	

Mass of container	Mass of sample and container	Mass of sample
1.87 g	33.53 g	31.66 g

Components: after acid digestion		
Fines:	%Weight: 53 %	Weight: 16.89 g
	Organic matter: none	
	Color: Munsell 7.5YR 7/4	
Binder:	%Weight: 27 %	Weight: 8.67 g
	Description of reaction: highly reactive	
	Binder type: lime	
Aggregate:	%Weight: 19 %	Weight: 6.09 g
	Sorting: 3	
	Notes: some ferrous aggregate	
Note: Characterization of the sample is achieved through percentages (of fines, binder, and aggregate).		

Mortar Analysis

Sample number: AU2

Building: Rissmeyer-Murray House (AU2)

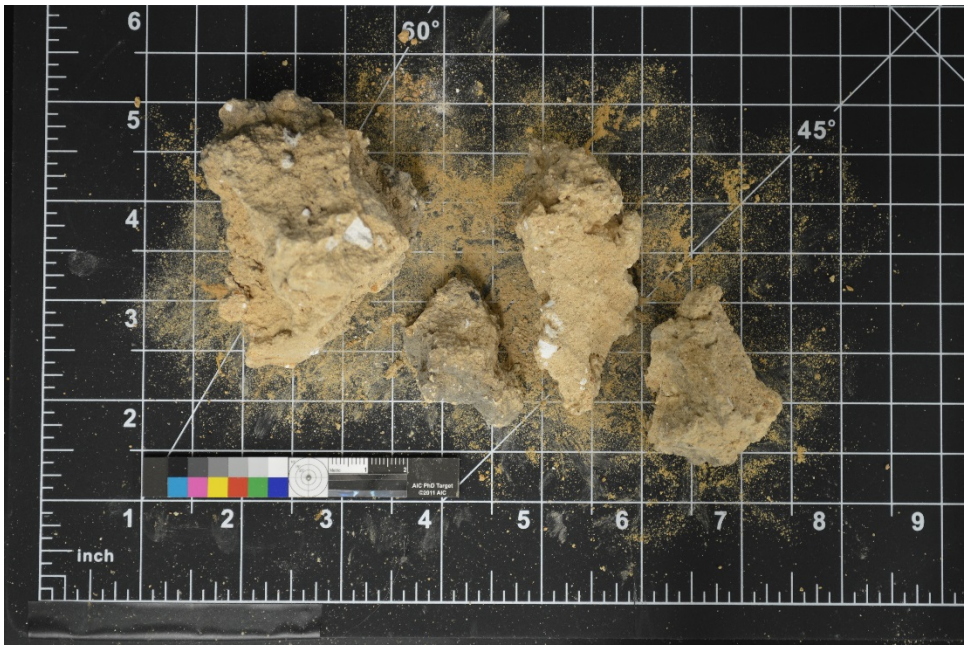
Location: Mount Sidney, Virginia vicinity	Date sampled: 8/3/2017
Analysis performed by: Sam Biggers	Date analyzed: 11/5/2017-11/20/2017

Description of sample

Location: Exterior wall, taken from basement interior	Sample: gravel wall material

Gross weight (before incubation): 31.41 g

Gross sample:



Mass of container	Mass of sample and container	Mass of sample
2.27 g	33.36 g	31.09 g

Components: after acid digestion		
Fines:	%Weight: 63 %	Weight: 19.75 g
	Organic matter: none	
	Color: Munsell 10YR 8/3	
Binder:	%Weight: 22 %	Weight: 6.79 g
	Description of reaction: highly reactive	
	Binder type: lime	
Aggregate:	%Weight: 15 %	Weight: 4.55 g
	Sorting: 4	
	Notes: none	
Note: Characterization of the sample is achieved through percentages (of fines, binder, and aggregate) and through an assessment of the sorting of the aggregate.		

Mortar Analysis

Sample number: AU3

Building: Eavers House (AU3)

Location: Middlebrook, Virginia vicinity	Date sampled: 12/18/2017
Analysis performed by: Sam Biggers	Date analyzed: 1/19/2018-1/24/2018

Description of sample

Location: Interior wall, taken from basement interior	Sample: gravel wall material

Gross weight (before incubation): 36.04 g

Gross sample:

Mass of container	Mass of sample and container	Mass of sample
1.83 g	37.47 g	35.64 g

Components: after acid digestion		
Fines:	%Weight: 34 %	Weight: 12.29 g
	Organic matter: none	
	Color: Munsell 7.5YR 7/6	
Binder:	%Weight: 24 %	Weight: 8.43 g
	Description of reaction: highly reactive	
	Binder type: lime	
Aggregate:	%Weight: 42 %	Weight: 14.92 g
	Sorting: 3	
	Notes: some ferrous aggregate	
Note: Characterization of the sample is achieved through percentages (of fines, binder, and aggregate) and through an assessment of the sorting of the aggregate.		

Mortar Analysis

Sample number: AU4a

Building: Hamilton House (AU4)

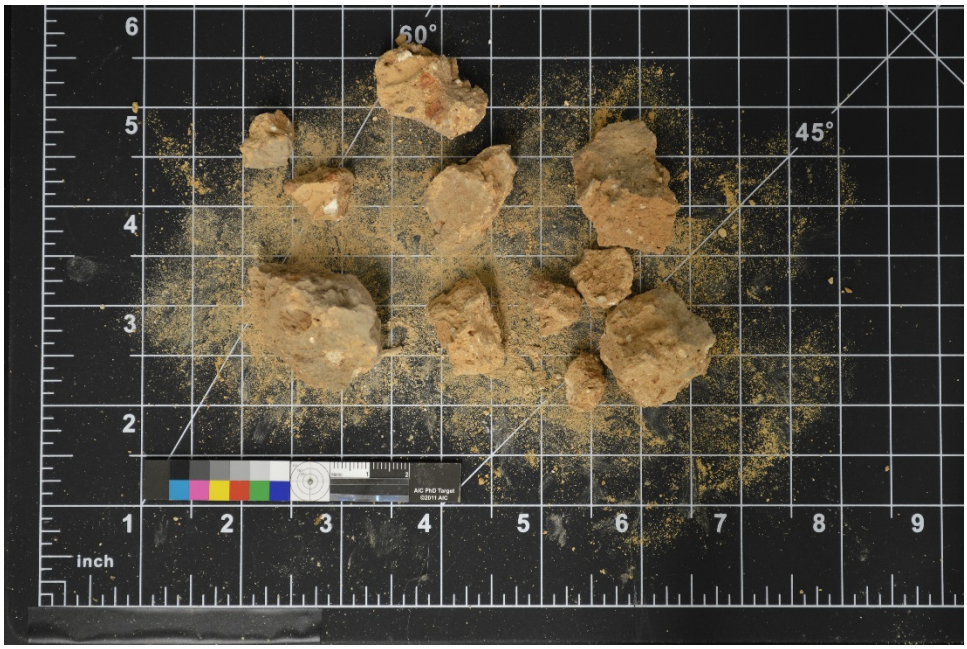
Location: Middlebrook, Virginia vicinity	Date sampled: 8/8/2017
Analysis performed by: Sam Biggers	Date analyzed: 11/30/2017-12/8/2017

Description of sample

Location: Exterior wall, taken from basement interior	Sample: gravel wall material

Gross weight (before incubation): 24.55 g

Gross sample:



Mass of container	Mass of sample and container	Mass of sample
1.83 g	25.99 g	24.16 g

Components: after acid digestion		
Fines:	%Weight: 62 %	Weight: 14.88 g
	Organic matter: none	
	Color: Munsell 10YR 7/4	
Binder:	%Weight: 32 %	Weight: 7.70 g
	Description of reaction: highly reactive	
	Binder type: lime	
Aggregate:	%Weight: 6 %	Weight: 1.58 g
	Sorting: 3	
	Notes: some ferrous aggregate	
Note: Characterization of the sample is achieved through percentages (of fines, binder, and aggregate) and through an assessment of the sorting of the aggregate.		

Mortar Analysis

Sample number: AU4b

Building: Hamilton House (AU4)

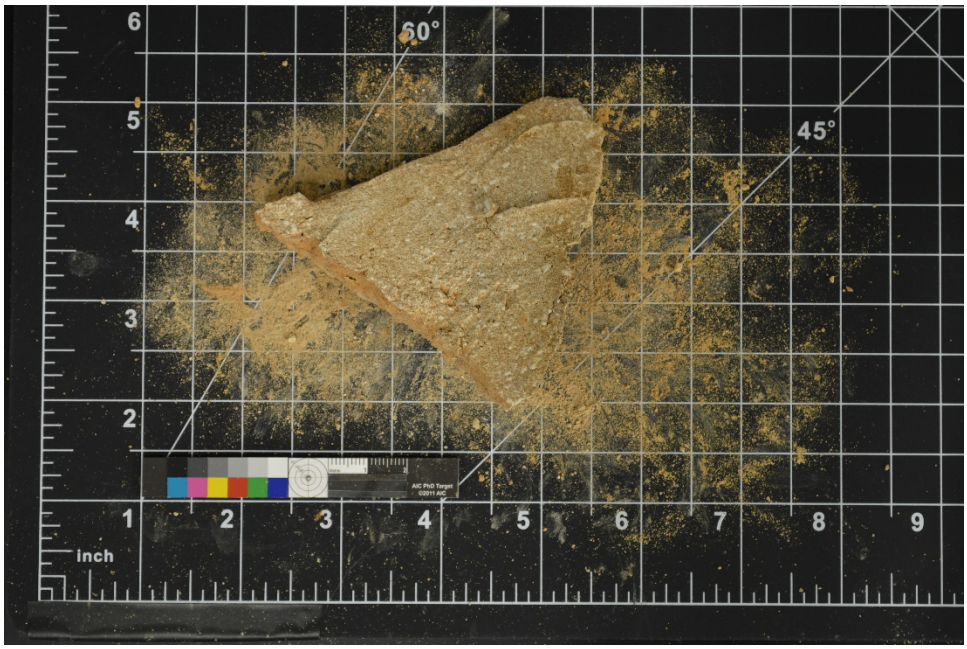
Location: Middlebrook, Virginia vicinity	Date sampled: 8/8/2017
Analysis performed by: Sam Biggers	Date analyzed: 11/5/2017-11/20/2017

Description of sample

Location: Exterior wall, taken from the exterior of the rear elevation of ell	Sample: stucco

Gross weight (before incubation): 14.10 g

Gross sample:



Mass of container	Mass of sample and container	Mass of sample
2.05 g	15.53 g	13.48 g

Components: after acid digestion		
Fines:	%Weight: 27 %	Weight: 3.69 g
	Organic matter: none	
	Color: Munsell 10YR 8/2	
Binder:	%Weight: 47 %	Weight: 6.30 g
	Description of reaction: highly reactive	
	Binder type: cement	
Aggregate:	%Weight: 26 %	Weight: 3.48 g
	Sorting: 5	
	Notes: none	
Note: Characterization of the sample is achieved through percentages (of fines, binder, and aggregate) and through an assessment of the sorting of the aggregate.		

Mortar Analysis

Sample number: AU5

Building: Broyles House (AU5)

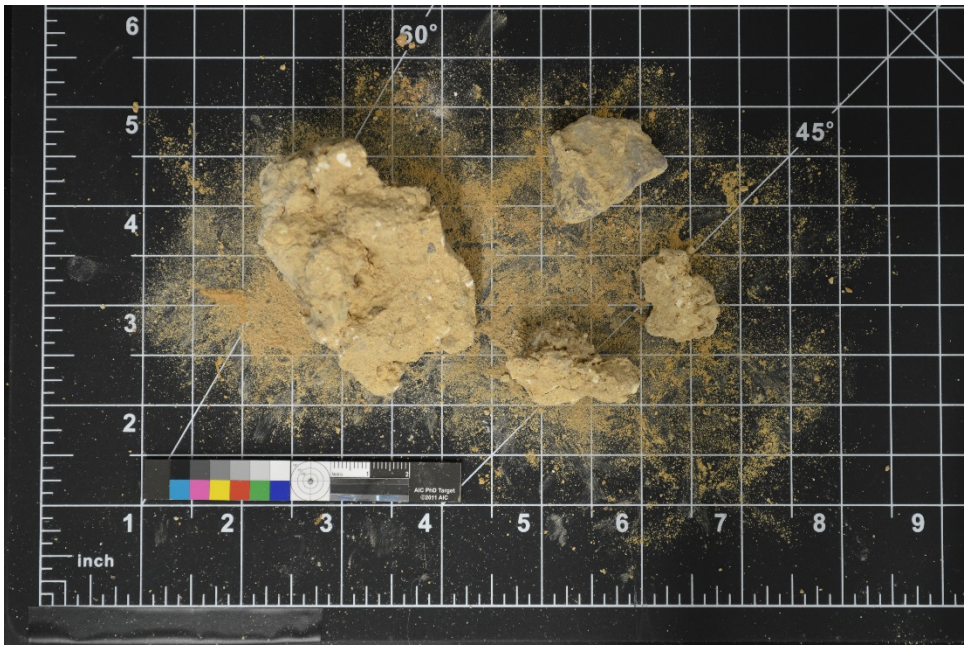
Location: Mount Sidney, Virginia vicinity	Date sampled: 8/9/2017
Analysis performed by: Sam Biggers	Date analyzed: 11/8/2017-12/2/2017

Description of sample

Location: Exterior wall, taken from basement interior	Sample: gravel wall material

Gross weight (before incubation): 30.32 g

Gross sample:



Mass of container	Mass of sample and container	Mass of sample
1.71 g	31.68 g	29.97 g

Components: after acid digestion		
Fines:	%Weight: 38 %	Weight: 11.47 g
	Organic matter: none	
	Color: Munsell 10YR 8/2	
Binder:	%Weight: 19 %	Weight: 5.79 g
	Description of reaction: highly reactive	
	Binder type: lime	
Aggregate:	%Weight: 43 %	Weight: 12.71 g
	Sorting: 4	
	Notes: large amount of ferrous aggregate	
Note: Characterization of the sample is achieved through percentages (of fines, binder, and aggregate) and through an assessment of the sorting of the aggregate.		

Mortar Analysis

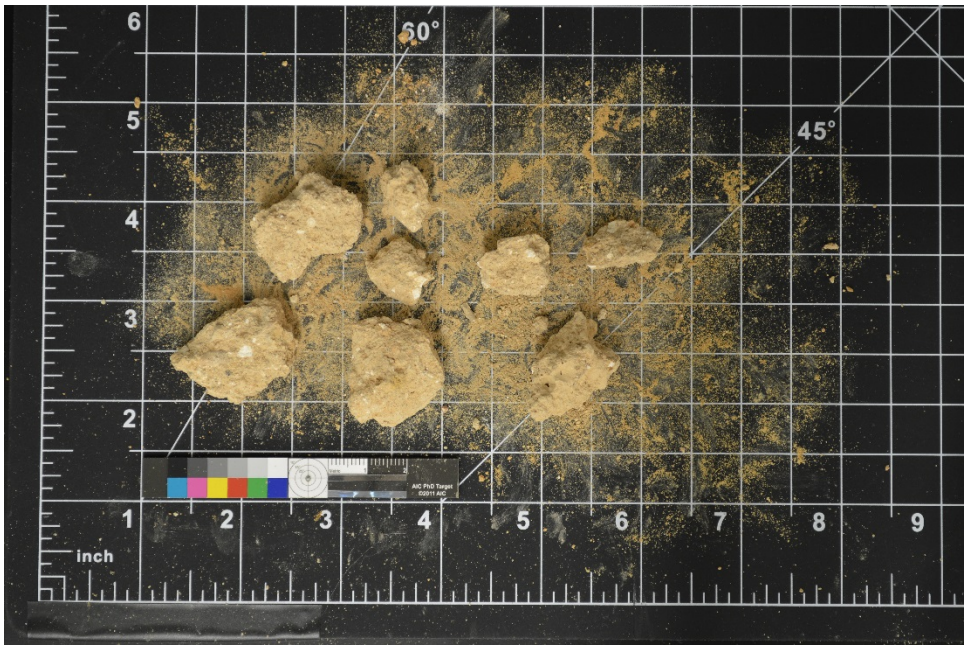
Sample number: AU6a

Building: Switzer House (AU6)	
Location: Centerville, Virginia vicinity	Date sampled: 10/7/2017
Analysis performed by: Sam Biggers	Date analyzed: 11/5/2017-11/19/2017

Description of sample

Location: Exterior wall, taken from exposed region on north exterior elevation	Sample: gravel wall material
Gross weight (before incubation): 32.39 g	

Gross sample:



Mass of container	Mass of sample and container	Mass of sample
1.85 g	34.00 g	32.15 g

Components: after acid digestion		
Fines:	%Weight: 65%	Weight: 20.92 g
	Organic matter: none	
	Color: Munsell 10YR 8/4	
Binder:	%Weight: 13%	Weight: 4.13 g
	Description of reaction: highly reactive	
	Binder type: lime	
Aggregate:	%Weight: 22%	Weight: 7.10 g
	Sorting: 4	
	Notes: none	
Note: Characterization of the sample is achieved through percentages (of fines, binder, and aggregate) and through an assessment of the sorting of the aggregate.		

Mortar Analysis

Sample number: AU6b

Building: Switzer House Kitchen House (associated with AU6)

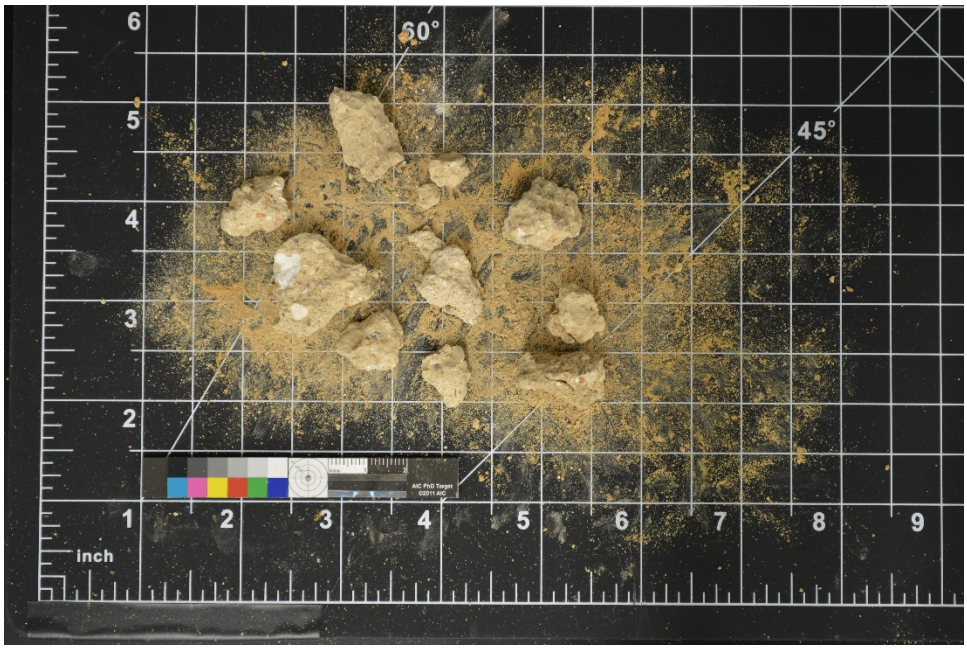
Location: Centerville, Virginia vicinity	Date sampled: 10/7/2017
Analysis performed by: Sam Biggers	Date analyzed: 11/27/2017-12/6/2017

Description of sample

Location: Exterior wall, taken from exposed region on south exterior elevation	Sample: gravel wall material

Gross weight (before incubation): 32.10 g

Gross sample:



Mass of container	Mass of sample and container	Mass of sample
1.85 g	33.49 g	31.64 g

Components: after acid digestion		
Fines:	%Weight: 58%	Weight: 18.36%
	Organic matter: none	
	Color: Munsell 10YR 8/4	
Binder:	%Weight: 33%	Weight: 10.28 g
	Description of reaction: highly reactive	
	Binder type: lime	
Aggregate:	%Weight: 9%	Weight: 3.00 g
	Sorting: 2	
	Notes: large amount of ferrous aggregate	
Note: Characterization of the sample is achieved through percentages (of fines, binder, and aggregate) and through an assessment of the sorting of the aggregate.		

Mortar Analysis

Sample number: AU7a

Building: Gasque House (AU7)

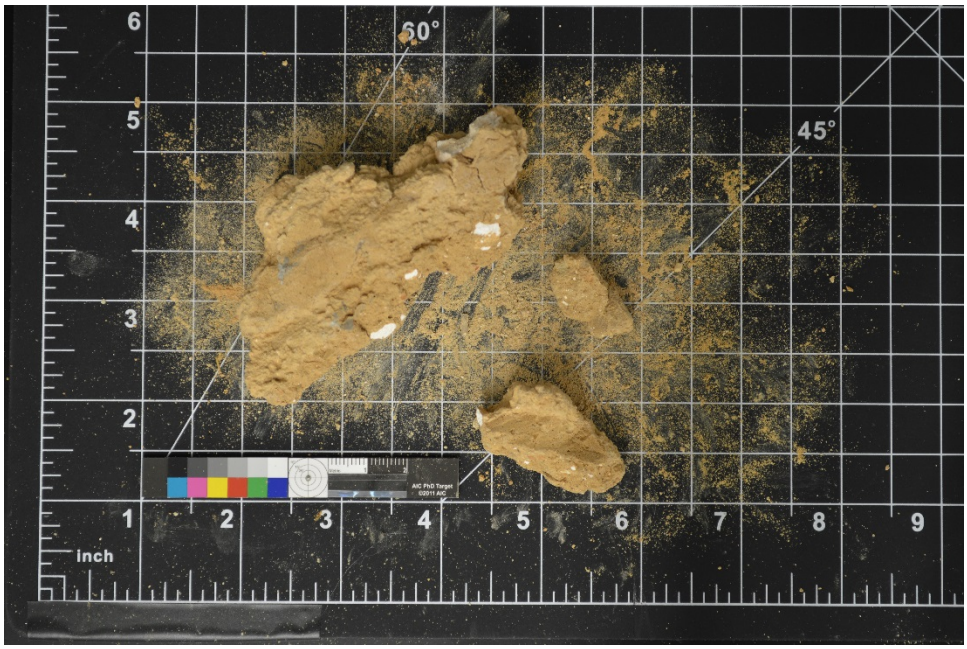
Location: Mount Sidney, Virginia vicinity	Date sampled: 8/9/2017
Analysis performed by: Sam Biggers	Date analyzed: 11/5/2017-11/19/2017

Description of sample

Location: Exterior wall, taken from basement interior	Sample: gravel wall material

Gross weight (before incubation): 34.59 g

Gross sample:



Mass of container	Mass of sample and container	Mass of sample
1.71 g	35.83 g	34.12 g

Components: after acid digestion		
Fines:	%Weight: 59 %	Weight: 20.00 g
	Organic matter: none	
	Color: Munsell 10YR 7/3	
Binder:	%Weight: 27 %	Weight: 9.23 g
	Description of reaction: highly reactive	
	Binder type: lime	
Aggregate:	%Weight: 14 %	Weight: 4.89 g
	Sorting: 3	
	Notes: some ferrous aggregate	
Note: Characterization of the sample is achieved through percentages (of fines, binder, and aggregate) and through an assessment of the sorting of the aggregate.		

Mortar Analysis

Sample number: AU7b

Building: Gasque House Spring House (associated with AU7)

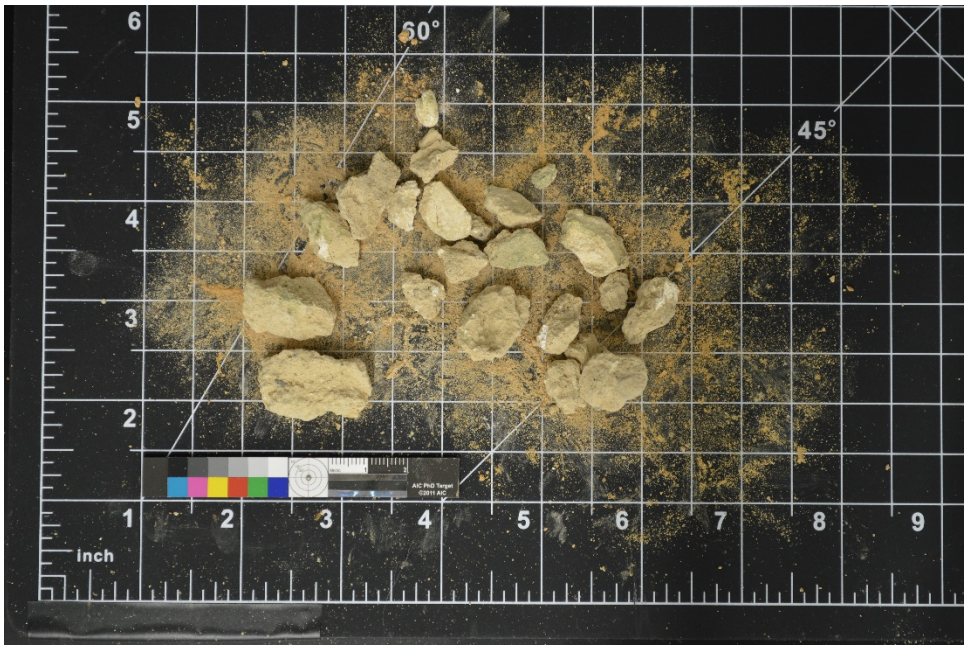
Location: Mount Sidney, Virginia vicinity	Date sampled: 8/9/2017
Analysis performed by: Sam Biggers	Date analyzed: 11/5/2017-11/20/2017

Description of sample

Location: Former interior wall (now a ruin)	Sample: gravel wall material

Gross weight (before incubation): 31.75 g

Gross sample:



Mass of container	Mass of sample and container	Mass of sample
2.18 g	33.61 g	31.42 g

Components: after acid digestion		
Fines:	%Weight: 34 %	Weight: 10.83 g
	Organic matter: none	
	Color: Munsell 10YR 7/3	
Binder:	%Weight: 26 %	Weight: 8.14 g
	Description of reaction: highly reactive	
	Binder type: lime	
Aggregate:	%Weight: 40 %	Weight: 12.46 g
	Sorting: 4	
	Notes: some ferrous aggregate	
Note: Characterization of the sample is achieved through percentages (of fines, binder, and aggregate) and through an assessment of the sorting of the aggregate.		

Mortar Analysis

Sample number: AU9a

Building: Pleasant View Church (AU9)

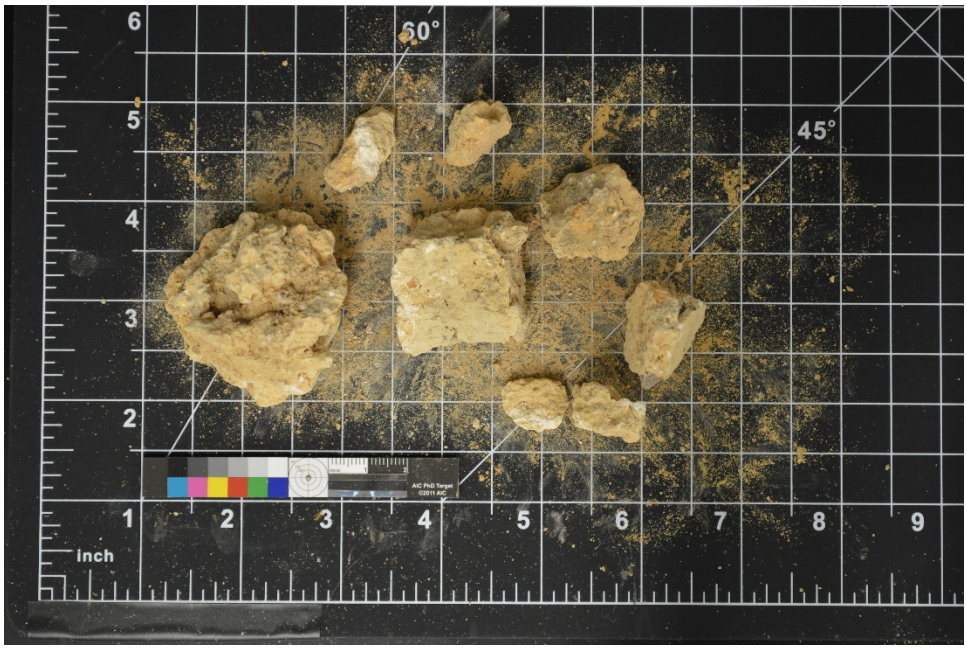
Location: Mount Sidney, Virginia vicinity	Date sampled: 8/14/2017
Analysis performed by: Sam Biggers	Date analyzed: 11/8/2017-12/2/2017

Description of sample

Location: Exterior wall, exterior northeast corner (where corner stile is missing)	Sample: gravel wall material

Gross weight (before incubation): 33.67 g

Gross sample:



Mass of container	Mass of sample and container	Mass of sample
1.83 g	34.65 g	32.82 g

Components: after acid digestion		
Fines:	%Weight: 69 %	Weight: 22.55 g
	Organic matter: none	
	Color: Munsell 7.5YR 7/4	
Binder:	%Weight: 18 %	Weight: 6.09 g
	Description of reaction: highly reactive	
	Binder type: lime	
Aggregate:	%Weight: 13 %	Weight: 4.18 g
	Sorting: 1	
	Notes: some ferrous aggregate	
Note: Characterization of the sample is achieved through percentages (of fines, binder, and aggregate) and through an assessment of the sorting of the aggregate.		

Mortar Analysis

Sample number: AU9b

Building: Pleasant View Church (AU9)

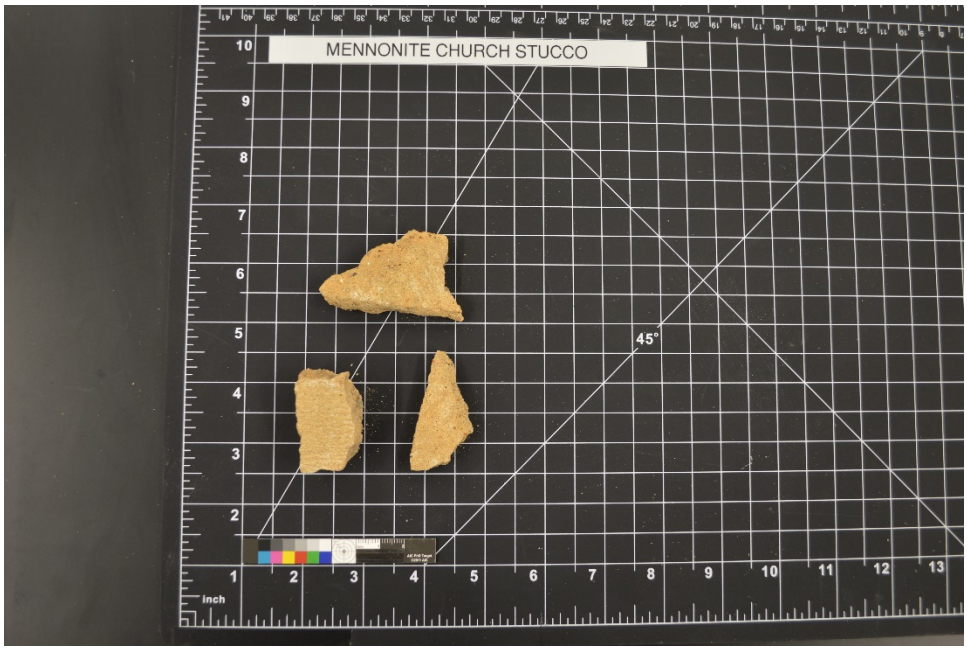
Location: Mount Sidney, Virginia vicinity	Date sampled: 12/19/2017
Analysis performed by: Sam Biggers	Date analyzed: 1/2/2018-1/20/2018

Description of sample

Location: Exterior wall, north exterior elevation	Sample: stucco

Gross weight (before incubation): N/A

Gross sample:



Mass of container	Mass of sample and container	Mass of sample
2.27 g	36.84 g	34.57 g

Components: after acid digestion		
Fines:	%Weight: 32 %	Weight: 11.12 g
	Organic matter: none	
	Color: Munsell 7.5YR 7/4	
Binder:	%Weight: 11 %	Weight: 3.85 g
	Description of reaction: slightly reactive	
	Binder type: lime	
Aggregate:	%Weight: 57 %	Weight: 19.60 g
	Sorting: 4	
	Notes: some ferrous aggregate	
Note: Characterization of the sample is achieved through percentages (of fines, binder, and aggregate).		

Mortar Analysis

Sample number: AU12

Building: Tourje House (AU12)

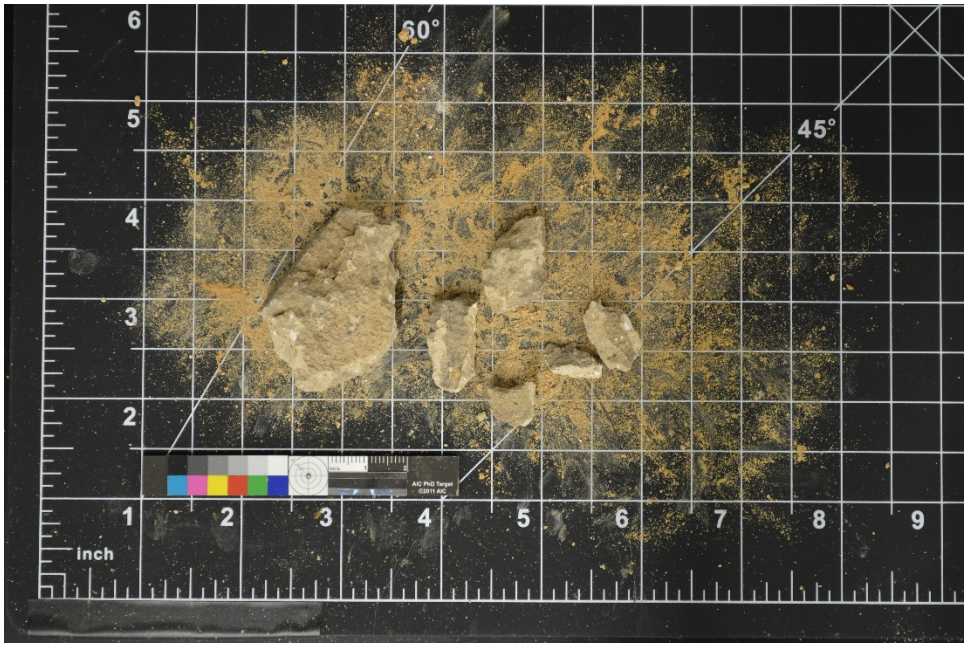
Location: Weyers Cave, Virginia vicinity	Date sampled: 8/14/2017
Analysis performed by: Sam Biggers	Date analyzed: 11/27/2017-12/6/2018

Description of sample

Location: Interior wall, taken from wall between north I-house room and ell (first floor) on interior	Sample: gravel wall material

Gross weight (before incubation): 22.89 g

Gross sample:



Mass of container	Mass of sample and container	Mass of sample
2.22 g	24.96 g	22.74 g

Components: after acid digestion		
Fines:	%Weight: 41 %	Weight: 9.36 g
	Organic matter: none	
	Color: Munsell 10YR 8/2	
Binder:	%Weight: 24 %	Weight: 5.55 g
	Description of reaction: highly reactive	
	Binder type: lime	
Aggregate:	%Weight: 35 %	Weight: 7.83 g
	Sorting: 5	
	Notes: some ferrous aggregate	
Note: Characterization of the sample is achieved through percentages (of fines, binder, and aggregate) and through an assessment of the sorting of the aggregate.		

Mortar Analysis

Sample number: AU15

Building: Palmer House (AU15)

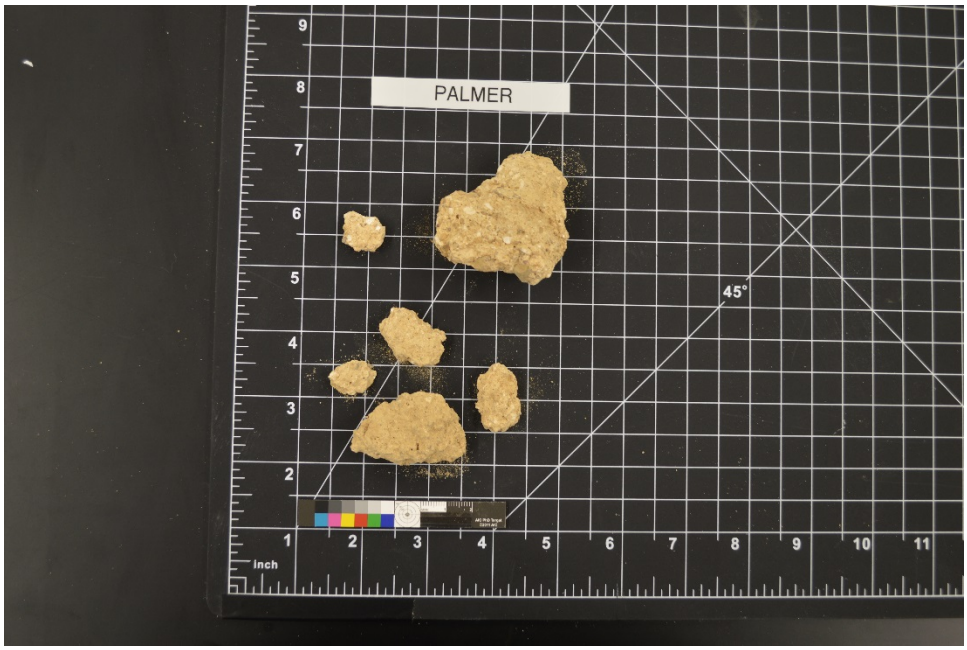
Location: Middlebrook, Virginia vicinity	Date sampled: 12/18/2017
Analysis performed by: Sam Biggers	Date analyzed: 1/12/2018-1/20/2018

Description of sample

Location: Exterior wall, from exposed region on south exterior elevation	Sample: gravel wall material

Gross weight (before incubation): N/A

Gross sample:



Mass of container	Mass of sample and container	Mass of sample
1.71 g	41.70 g	39.99 g

Components: after acid digestion		
Fines:	%Weight: 48 %	Weight: 19.18 g
	Organic matter: none	
	Color: Munsell 10YR 7/3	
Binder:	%Weight: 34 %	Weight: 13.62 g
	Description of reaction: highly reactive	
	Binder type: lime	
Aggregate:	%Weight: 18 %	Weight: 7.19 g
	Sorting: 2	
	Notes: some ferrous aggregate	
Note: Characterization of the sample is achieved through percentages (of fines, binder, and aggregate) and through an assessment of the sorting of the aggregate.		

Mortar Analysis

Sample number: AU17

Building: Grace Church Parsonage (AU17)

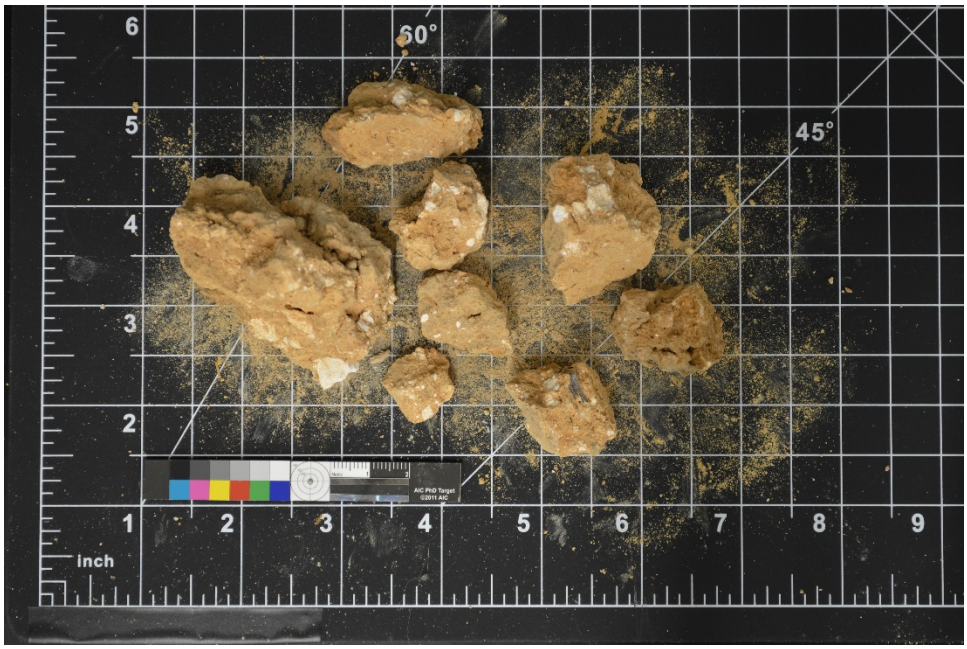
Location: Middlebrook, Virginia	Date sampled: 10/7/2017
Analysis performed by: Sam Biggers	Date analyzed: 11/30/2017-12/8/2018

Description of sample

Location: Exterior wall, taken from the basement interior	Sample: gravel wall material

Gross weight (before incubation): 28.58 g

Gross sample:



Mass of container	Mass of sample and container	Mass of sample
1.80 g	30.07 g	28.26 g

Components: after acid digestion		
Fines:	%Weight: 43 %	Weight: 12.16 g
	Organic matter: none	
	Color: Munsell 7.5YR 6/4	
Binder:	%Weight: 30 %	Weight: 8.49 g
	Description of reaction: highly reactive	
	Binder type: lime	
Aggregate:	%Weight: 27 %	Weight: 7.61 g
	Sorting: 5	
	Notes: some ferrous aggregate	
Note: Characterization of the sample is achieved through percentages (of fines, binder, and aggregate) and through an assessment of the sorting of the aggregate.		

Mortar Analysis

Sample number: AU21

Building: Irvine House (AU21)

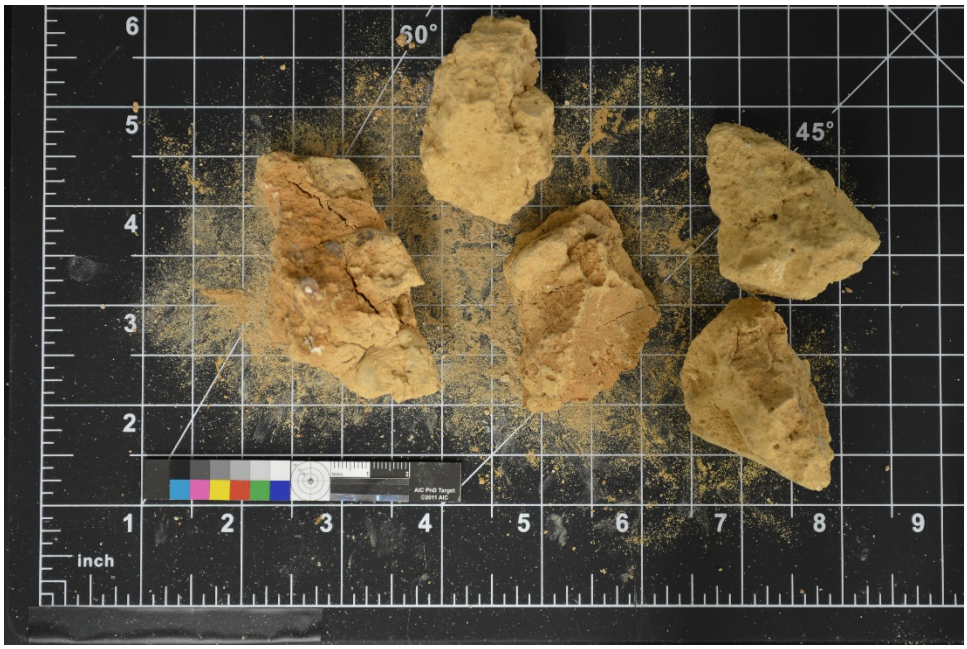
Location: West Augusta, Virginia vicinity	Date sampled: 10/8/2017
Analysis performed by: Sam Biggers	Date analyzed: 11/8/2017-12/2/2018

Description of sample

Location: Exterior wall, taken from exposed region on north exterior elevation	Sample: gravel wall material

Gross weight (before incubation): 27.12 g

Gross sample:



Mass of container	Mass of sample and container	Mass of sample
1.73 g	25.15 g	23.42 g

Components: after acid digestion		
Fines:	%Weight: 67 %	Weight: 15.65 g
	Organic matter: none	
	Color: Munsell 10YR 8/4	
Binder:	%Weight: 7 %	Weight: 1.72 g
	Description of reaction: slightly reactive	
	Binder type: lime	
Aggregate:	%Weight: 26 %	Weight: 6.05 g
	Sorting: 4	
	Notes: large amount of ferrous aggregate	
Note: Characterization of the sample is achieved through percentages (of fines, binder, and aggregate) and through an assessment of the sorting of the aggregate.		

Mortar Analysis

Sample number: AU26

Building: Wilkinson House (AU26)

Location: Middlebrook, Virginia vicinity	Date sampled: 12/12/2017
Analysis performed by: Sam Biggers	Date analyzed: 1/19/2018-1/24/2018

Description of sample

Location: Interior wall, taken from basement interior	Sample: gravel wall material

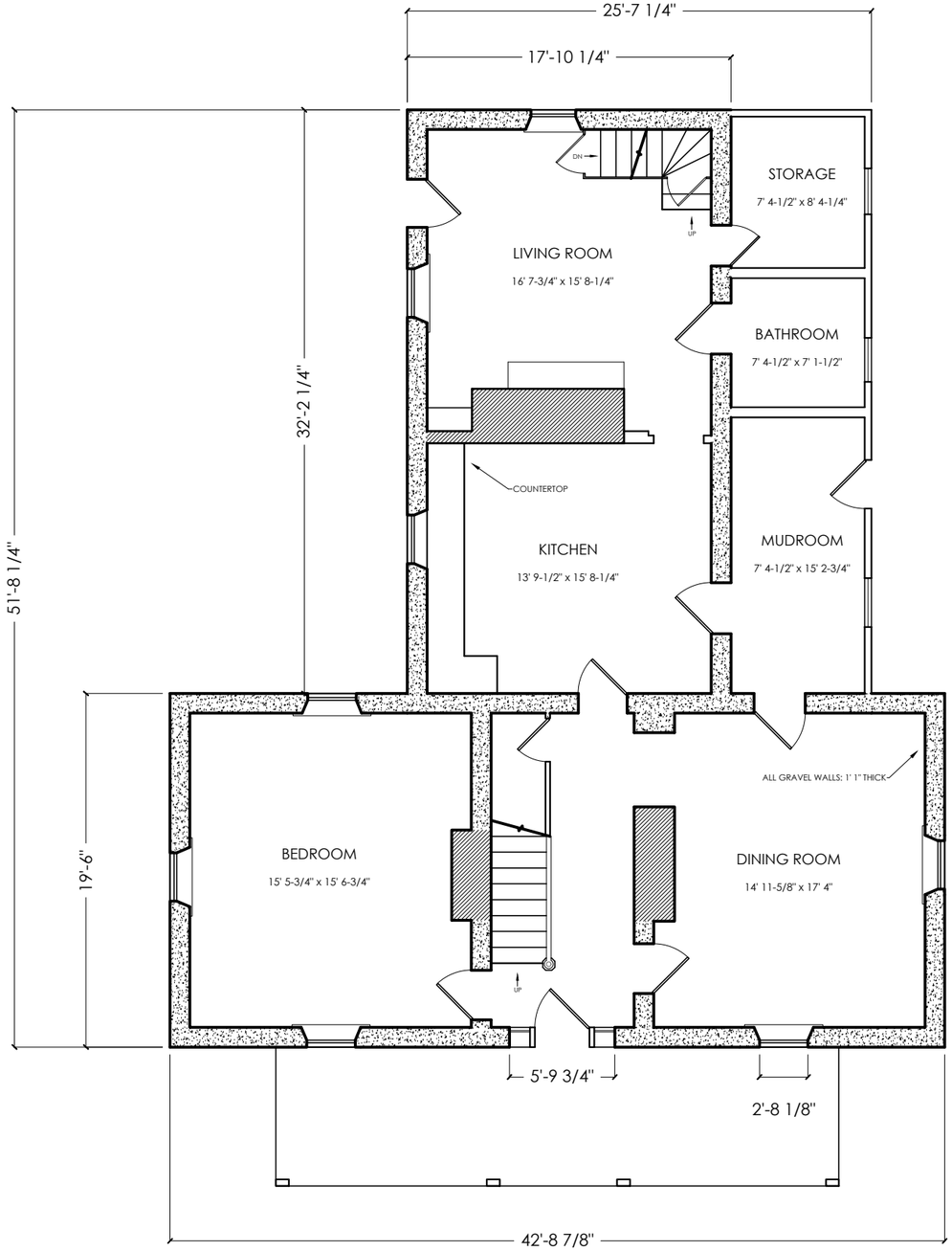
Gross weight (before incubation): 35.64 g

Gross sample:

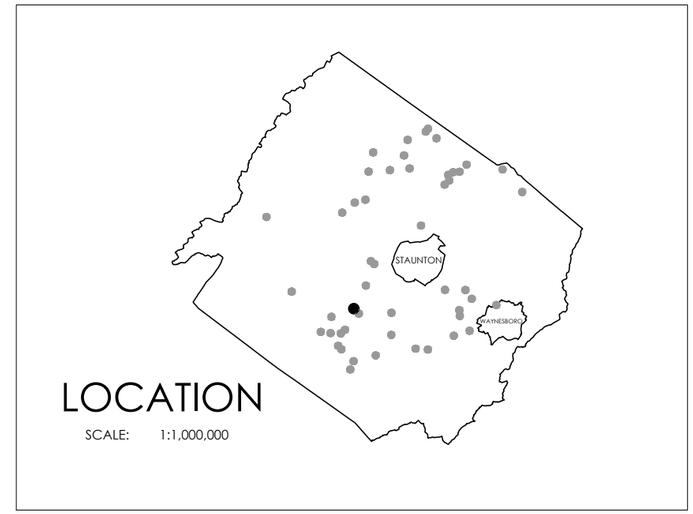
Mass of container	Mass of sample and container	Mass of sample
1.83 g	36.02 g	34.19 g

Components: after acid digestion		
Fines:	%Weight: 43 %	Weight: 14.61 g
	Organic matter: none	
	Color: Munsell 10YR 8/2	
Binder:	%Weight: 13 %	Weight: 4.59 g
	Description of reaction: highly reactive	
	Binder type: lime	
Aggregate:	%Weight: 44 %	Weight: 14.99 g
	Sorting: 4	
	Notes: some ferrous aggregate	
Note: Characterization of the sample is achieved through percentages (of fines, binder, and aggregate) and through an assessment of the sorting of the aggregate.		

Appendix D: Measured Drawings

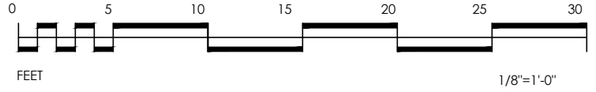


SCALE: 1/8" = 1'



KEY

- GRAVEL WALL
- FRAME
- BRICK



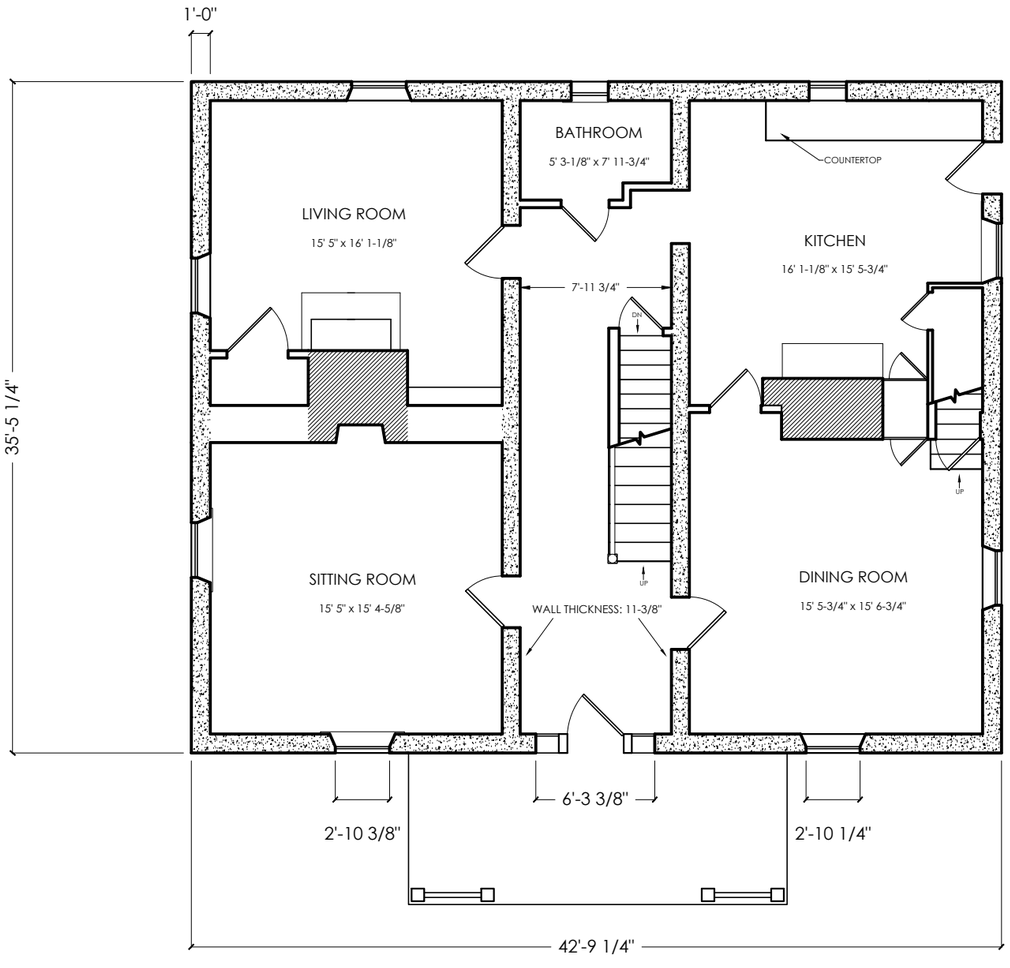
MEASURED BY: SAM BIGGERS
DRAWN BY: SAM BIGGERS

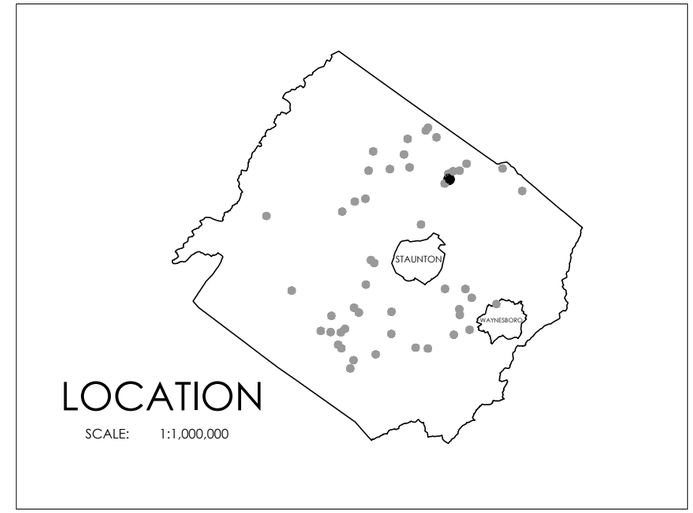
SENSABAUGH HOUSE

VICINITY OF MIDDLEBROOK AUGUSTA COUNTY VIRGINIA

FIRST FLOOR PLAN

SURVEY NO. AU1





KEY

- GRAVEL WALL
- FRAME
- BRICK

N

0 5 10 15 20 25 30

FEET

1/8"=1'-0"

SCALE: 1/8" = 1'

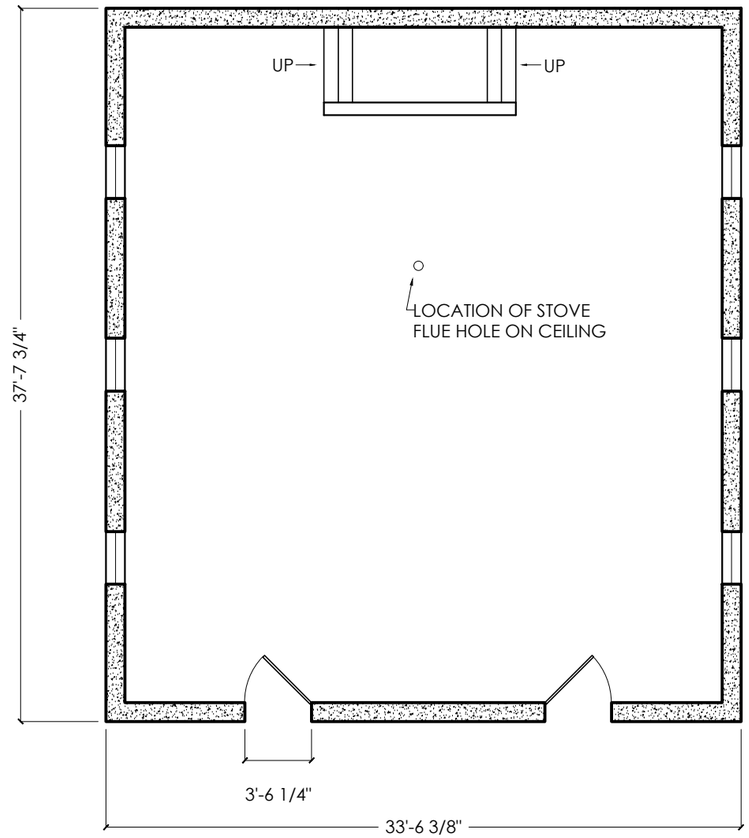
MEASURED BY: SAM BIGGERS
DRAWN BY: SAM BIGGERS

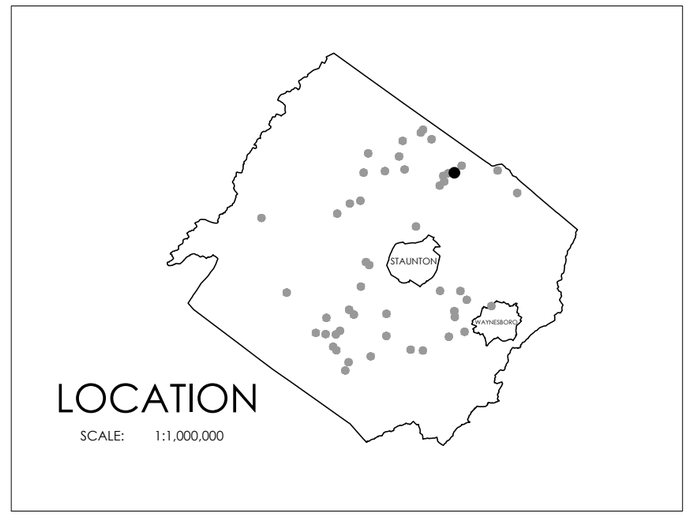
GASQUE HOUSE

VICINITY OF MOUNT SIDNEY AUGUSTA COUNTY VIRGINIA

FIRST FLOOR PLAN

SURVEY NO.
AU7





KEY

GRAVEL WALL

N

0 5 10 15 20 25 30

FEET

1/8"=1'-0"

SCALE: 1/8" = 1'

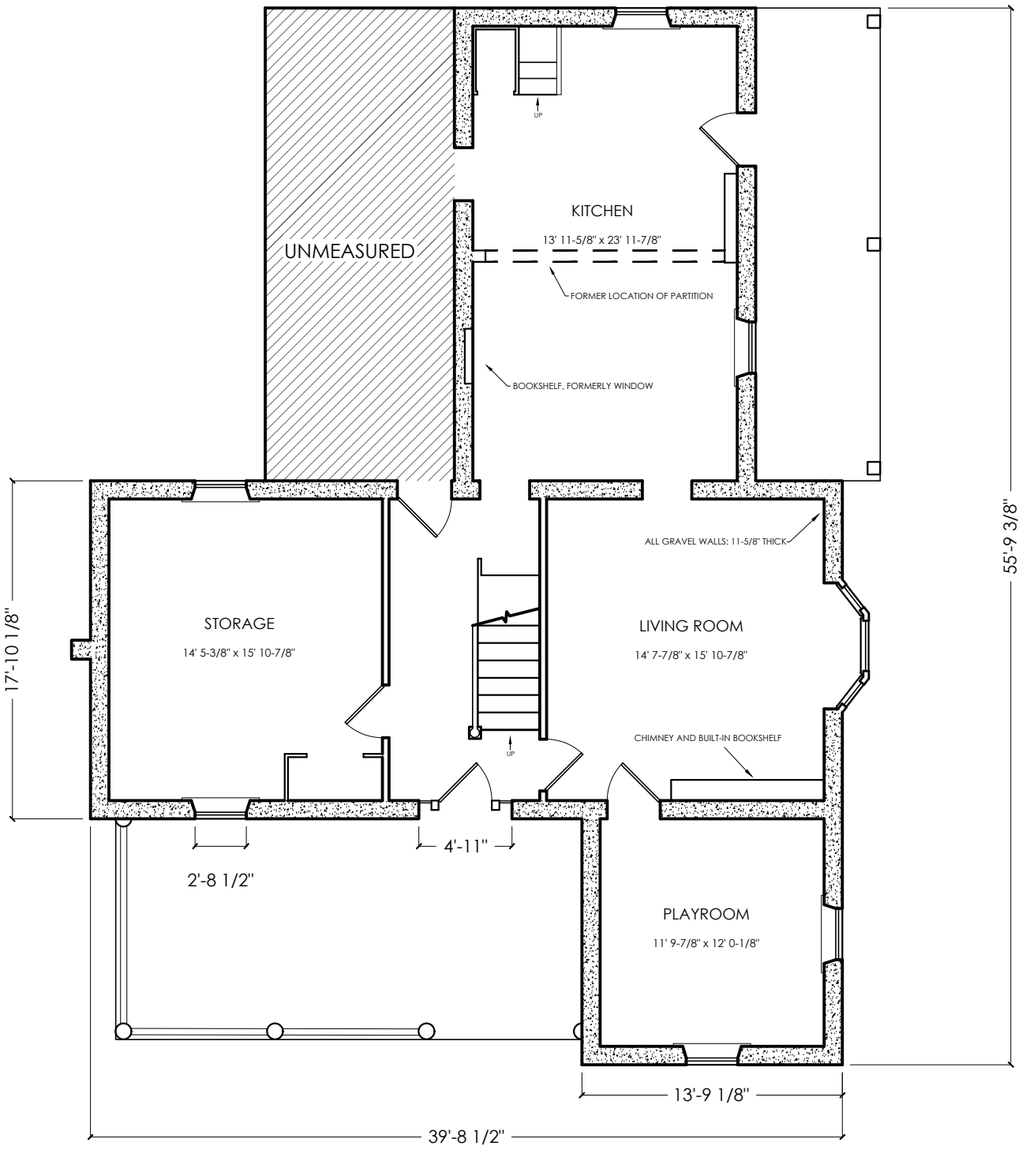
MEASURED BY: SAM BIGGERS
DRAWN BY: SAM BIGGERS

MOUNT PLEASANT CHURCH

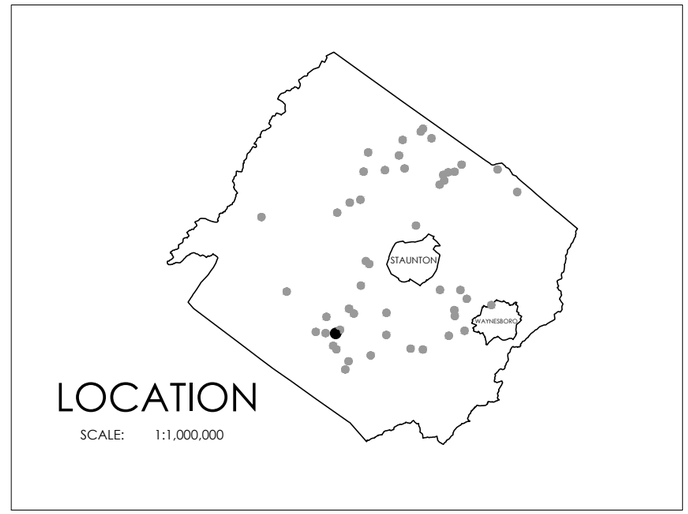
VICINITY OF MOUNT SIDNEY AUGUSTA COUNTY VIRGINIA

FIRST FLOOR PLAN

SURVEY NO.
AU9



SCALE: 1/8" = 1'



LOCATION

SCALE: 1:1,000,000

KEY

GRAVEL WALL

FRAME

N

0 5 10 15 20 25 30

FEET

1/8"=1'-0"

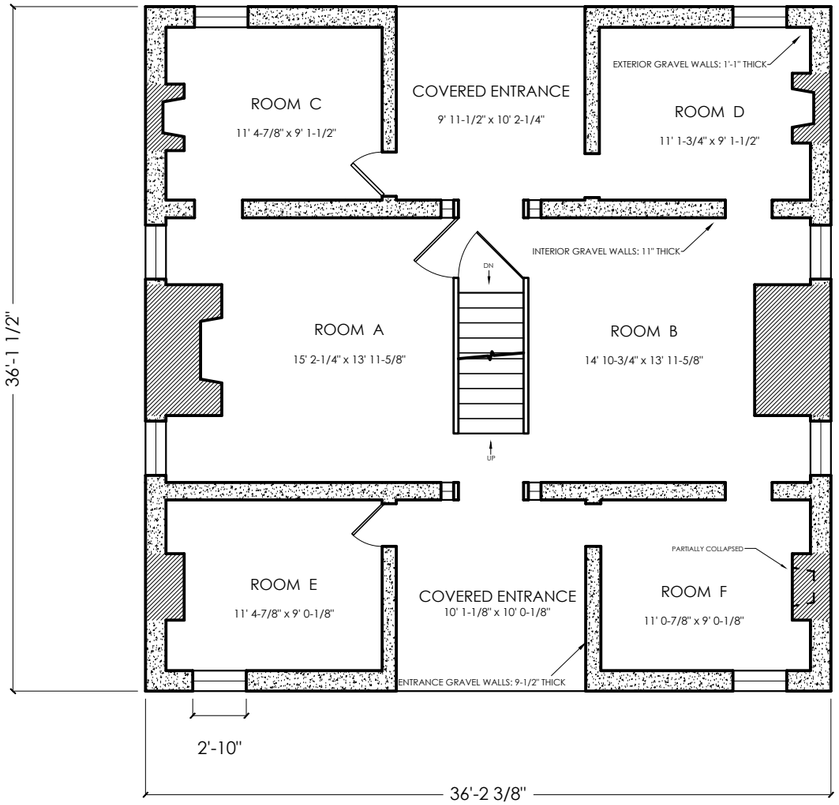
MEASURED BY: SAM BIGGERS AND CHRIS WARRING
DRAWN BY: SAM BIGGERS

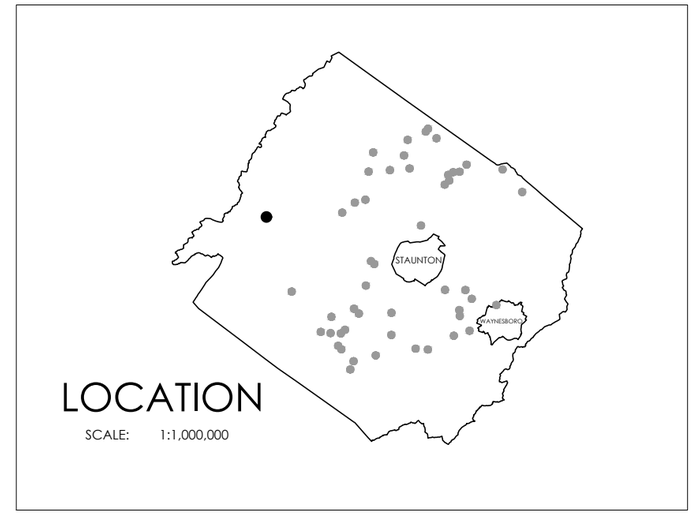
GRACE CHURCH PARSONAGE

MIDDLEBROOK AUGUSTA COUNTY VIRGINIA

FIRST FLOOR PLAN

SURVEY NO. AU17





KEY

- GRAVEL WALL
- FRAME
- BRICK

N

0 5 10 15 20 25 30

FEET

1/8"=1'-0"

SCALE: 1/8" = 1'

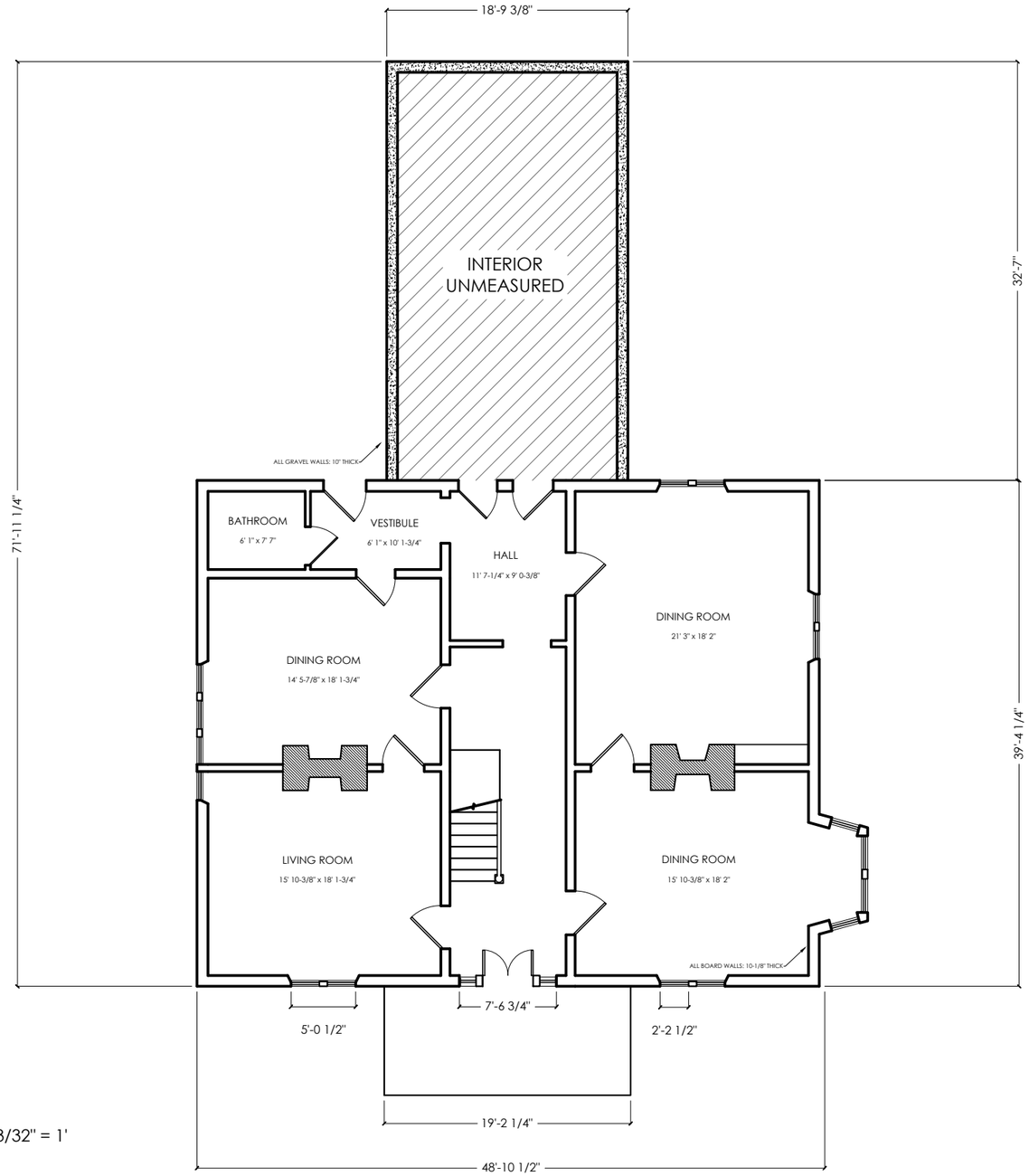
MEASURED BY: SAM BIGGERS AND STACEY BAKER
DRAWN BY: SAM BIGGERS

IRVINE HOUSE

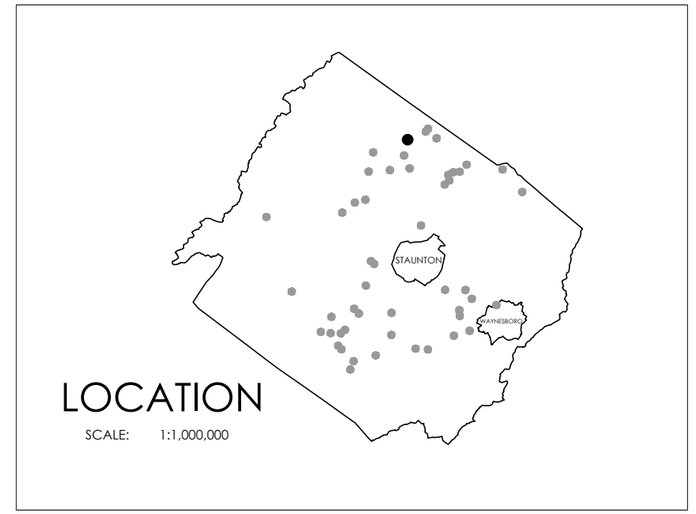
VICINITY OF WEST AUGUSTA AUGUSTA COUNTY VIRGINIA

FIRST FLOOR PLAN

SURVEY NO. AU21



SCALE: 3/32" = 1'



KEY

- GRAVEL WALL
- FRAME
- BRICK

N

0 2 4 8 12 16 20 40

FEET

3/32"=1'-0"

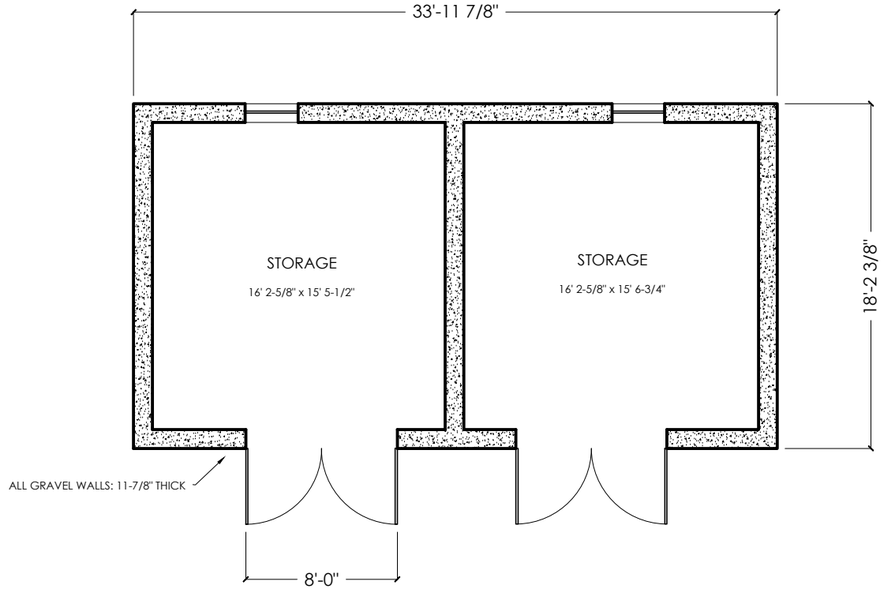
MEASURED BY: SAM BIGGERS AND KYLE LINCOLN
DRAWN BY: SAM BIGGERS

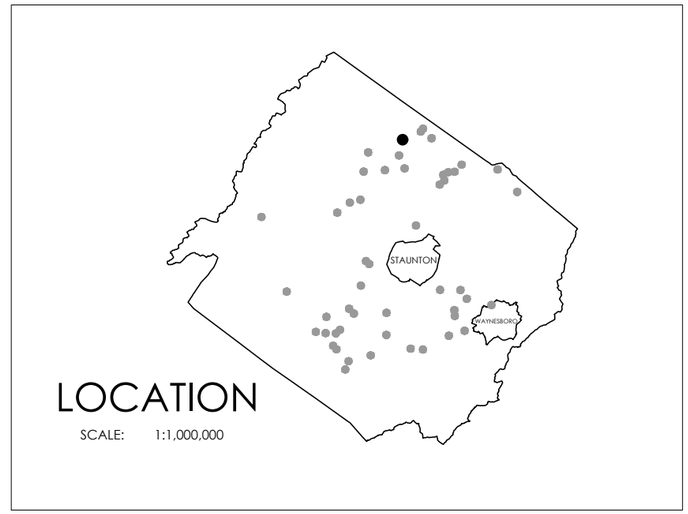
MCCUE HOUSE

MT. SOLON AUGUSTA COUNTY VIRGINIA

FIRST FLOOR PLAN

SURVEY NO.
AU23





LOCATION

SCALE: 1:1,000,000

KEY

GRAVEL WALL

N

0 5 10 15 20 25 30

FEET

1/8"=1'-0"

SCALE: 1/8" = 1'

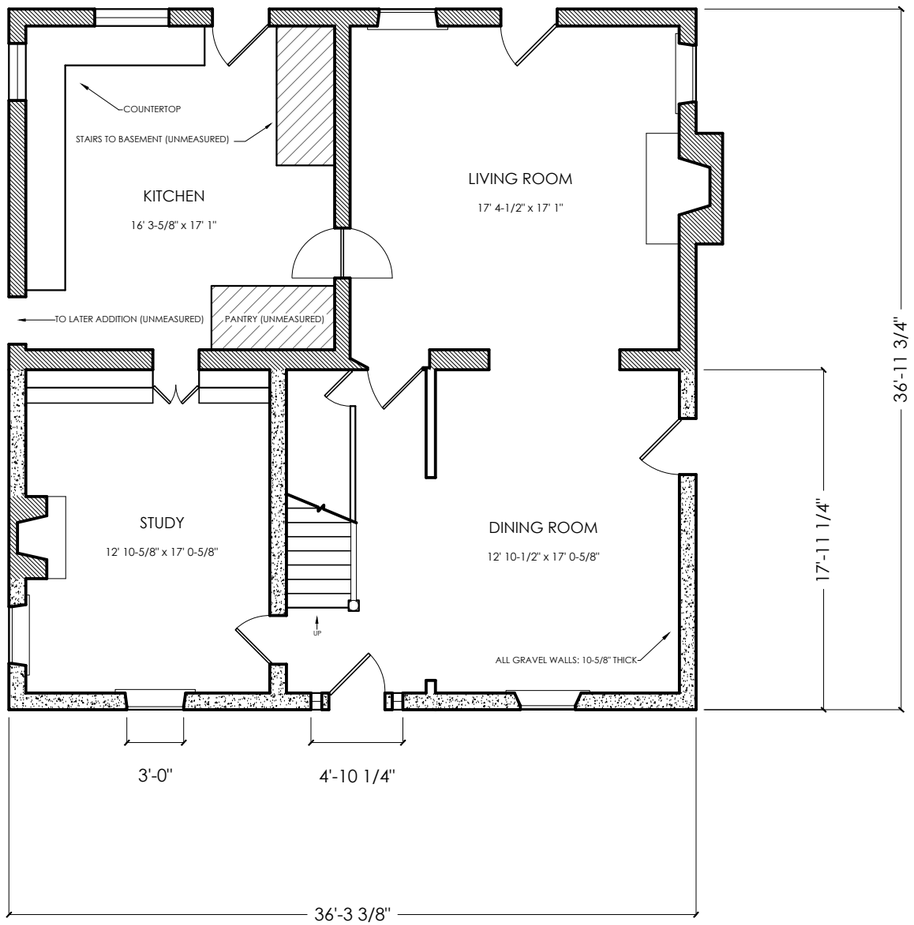
MEASURED BY: SAM BIGGERS AND KYLE LINCOLN
DRAWN BY: SAM BIGGERS

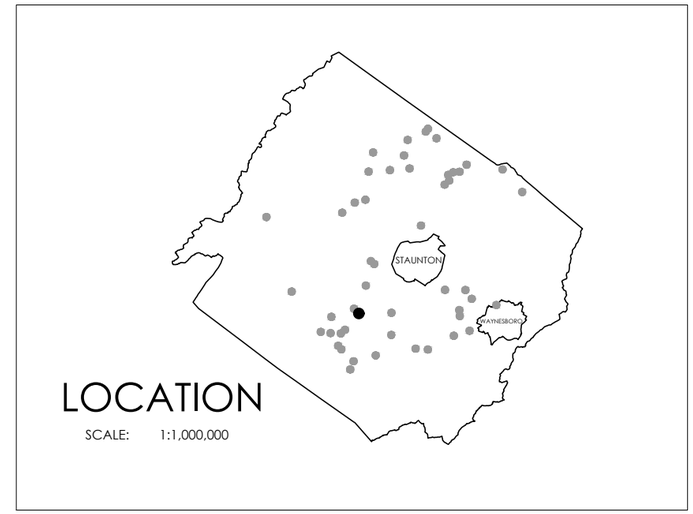
MCCUE HOUSE CARRIAGE HOUSE

MT. SOLON AUGUSTA COUNTY VIRGINIA

FIRST FLOOR PLAN

SURVEY NO. AU23





KEY

- GRAVEL WALL
- FRAME
- BRICK

N

0 5 10 15 20 25 30

FEET

1/8"=1'-0"

SCALE: 1/8" = 1'

MEASURED BY: SAM BIGGERS
DRAWN BY: SAM BIGGERS

WILKINSON HOUSE

VICINITY OF MIDDLEBROOK AUGUSTA COUNTY VIRGINIA

FIRST FLOOR PLAN

SURVEY NO. AU26